



Occasional Paper

Aboriginal and Torres Strait Islander People in the Australian Labour Market

1986 and 1991



Statistics

**OCCASIONAL PAPER:
ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE IN
THE AUSTRALIAN LABOUR MARKET
1986 AND 1991**

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PREFACE

In April 1992, I took up a part-time position as a Research Fellow at the Australian Bureau of Statistics (ABS). The aim of the ABS in providing these fellowships is to utilise the expertise of external researchers to enhance the range of analysis undertaken with the wealth of data collected by the bureau. My specific intention was to use data from the Census of Population and Housing to undertake a more detailed study of the position of indigenous Australians in the labour market and their associated economic status. At the Centre for Aboriginal Economic Policy Research (CAEPR) at the Australian National University, where I was then working, we were acutely aware of the limited amount of data available on the status of indigenous Australians. The census data are of particular importance in documenting the position of indigenous Australians because they are one of the few comprehensive sources of information which allows comparisons with other Australians.

Over my two years at the ABS, I worked with both 1986 and 1991 census data. The results of much of this work have been published as work-in-progress in the discussion paper series of the Centre for Aboriginal Economic Policy Research at the Australian National University.

I have many people to thank for both an interesting and enjoyable period at the ABS. I would especially like to thank Tim Skinner and Geoff Sims for being on my steering committee. Simone Knight, Jill McPadden, Cathy Blacker and Kate Ross were particularly helpful in the census division. One of the aims of the ABS fellowship scheme is to encourage co-operative research between ABS staff and academics. I was lucky enough to work with a group of very able ABS statisticians on modelling the labour force status of indigenous people. Bill Allen, Lousie Aufflick, Ed Bosworth and Martin Caruso established the model, using 1986 data, for investigating the determinants of labour force status of indigenous people. I have replicated it here using 1991 data (see chapter 2). I would like to thank them for their enthusiastic help.

I also have many people to thank at the Australian National University. The staff at the Centre for Aboriginal Economic Policy Research have provided much valuable assistance and support. I would like to thank them all but particularly Jon Altman, Diane Smith and John Taylor for their comments on earlier drafts of the work presented in this monograph. Liu Jin provided valuable research assistance and Hilary Bek, Nicki Lumb, Linda Roach and Krystyna Szokalski made the task of putting this monograph together much easier because of their careful editing of the earlier discussion papers.

I have also received assistance from the Reshaping Australian Institutions project in the Research School of Social Sciences at the Australian National University. My work on this monograph was partially funded through this project. I would like to thank Bob Gregory and George Fane for their encouragement and comments on earlier drafts. Eva Klug has also been a great help with the data. Of course, all remaining errors are my responsibility.

The conclusions drawn and observations made by me are my own, and do not necessarily represent the views of the Australian Bureau of Statistics.

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
AEP	Aboriginal Education Polciy
AEDP	Aboriginal Employment Development Policy
ALIP	Aboriginal Languages Initiative Program
ALS	Australian Longitudinal Survey
ATSIC	Aboriginal and Torres Strait Islander Commission
CAEPR	Centre for Aboriginal Economic Policy Research
CDEP	Community Development Employment Projects
DEET	Department of Employment, Education and Training
NATIS	National Aboriginal and Torres Strait Islander Survey
RCIADIC	Royal Commission into Aboriginal Deaths in CustodyPreface

CHAPTER 1

INTRODUCTION

Australia's indigenous population of Aboriginal and Torres Strait Islander people accounted for less than two per cent of the population recorded in the 1991 Census, yet they are regarded as a special group in a range of government programs. A number of factors distinguish indigenous people from other Australians.¹ As the indigenous inhabitants of the continent, they have had their lives changed dramatically by the arrival of European settlers.

Not only does the history of indigenous people differ from that of other Australians but there are other important differences. Indigenous people are more concentrated in the younger age groups than are other Australians and are more likely to live outside major urban centres. It is well documented that the economic status of indigenous people in Australia, as measured by conventional indicators, falls behind that of other Australians. Aborigines have, on average, lower incomes, fewer are in employment and those who do work are occupied in less skilled jobs and concentrated in the public sector (Altman 1991; Tesfaghiorghis and Altman 1991, Taylor 1993^a).

The purpose of this monograph is to document some of the changes which have taken place in indigenous economic status over the last twenty years. The data source used here is the five-yearly census of population and housing for the period 1971–91 (see Altman and Nieuwenhuysen (1979), Fisk (1985), Altman (1991), Taylor 1993^a and 1993^b for more detailed analyses of individual census years).

The reliance on census data has both benefits and costs. The census is the only comprehensive source of information on the indigenous population collected at regular intervals. Information is available on the basis of fairly consistent definitions and it is possible to compare the position of indigenous people with that of other Australians. Other sources, notably case studies, document the economic position of particular groups of indigenous people in more detail, but it is difficult to generalise from these and they do not always permit comparisons with other Australians. There are however, certain difficulties associated with census data which must be considered.

Since 1971, Aboriginal and Torres Strait Islander people have been identified as such by their answers to a question of the form 'Is the person of Aboriginal or Torres Strait Islander origin?' (question 13, 1991 Census). This process of self identification creates some problems. It appears that people have changed their willingness to identify over time (Gray and Smith 1983, Choi and Gray 1985). This means that when longitudinal comparisons are made of such indicators as educational levels or industry of employment, the actual people included in the comparison may well differ. It is possible that those who have chosen to identify as indigenous people in more recent censuses are more closely integrated into mainstream society and are more like other Australians as measured by conventional social indicators than are the indigenous people who have always identified as such. The effect of the inclusion of this group may be to suggest improvements in these indicators which may not have taken place.

¹ The terms indigenous, 'Aboriginal' and 'Aborigines' is used here to refer to the Aboriginal and Torres Strait Islander populations of Australia.

Collecting information from indigenous people in remote Australia has not been easy. Not only are there problems associated with locating people in remote parts of Australia, but also lack of formal education and the inappropriateness of some of the concepts used, have increased the difficulties associated with completing the census form. The Australian Bureau of Statistics (ABS) has had a remote area strategy for census enumeration since 1976 and the quality of the census count coming from these areas has improved over time (see Taylor 1992^a). However, the use of concepts appropriate to the wider Australian community in these quite different circumstances can create problems in interpreting the data (Smith 1991). For example, what is the most appropriate classification for a hunter-gatherer with no money income from employment: 'employed' for the person is certainly working; 'unemployed' for the person may be willing to take up paid employment if offered the opportunity; or 'not in the labour force' as the activities being performed fall outside the conventional definitions of labour market activity?

Lack of education and a general suspicion of government have also affected the quality of information collected from less remote indigenous Australians. For most questions, the 'not stated' category accounted for a larger proportion of indigenous than for other Australian responses. Although these problems associated with the use of census data need to be remembered, they are certainly not sufficient to invalidate its use as an indicator of indigenous economic status at an aggregate level, particularly given the lack of any better data covering the whole of the self-identifying indigenous population.

In order to establish the background for the analysis of contemporary economic status, this monograph begins by surveying the census data over the period 1971–91. The emphasis is on changes in indigenous labour force status including occupation and industry of employment, changes in income and in educational status. The remaining chapters focus on 1991 data. Chapters 2 and 3 use econometric models to consider the determinants of labour force status for indigenous and other Australians (chapter 2) and the determinants of income for those in full-time employment (chapter 3). Chapters 4 and 5 consider the labour market status of two age groups; youth at the beginning of their working life (chapter 4) and those over 50 years of age at the end of their working life (chapter 5). Chapter 6 compares the characteristics of the indigenous and non-indigenous self-employed. Chapter 7 summarises the major results and also raises some issues for policy.

It has been possible to cover this range of topics because of access to internal ABS data. Specifically, I have used the full Aboriginal sub-file of the 1991 Census and a one per cent sample of the full Census of the Australian population which was created for use within the ABS. These are referred to as 'full Aboriginal sub-file' and the '1 per cent ABS sample' in the text.

The educational attainment of indigenous people

Although the focus of this monograph is the position of indigenous Australians in the labour market, it is appropriate to begin by presenting data on the educational attainment of the indigenous population. It is well established in the economic literature that education is an important determinant of both the labour force status and income of Aboriginal people.² These studies have used cross-section data and therefore relate to one period. Further research would be necessary to establish the effect of

² Studies on the determinants of employment status for indigenous people include Jones (1990, 1991), Miller (1989, 1991), Ross (1991), Daly (1993a) and Daly et al (1993). Studies on the determinants of Aboriginal employment income include Jones (1990) and Daly (1992a). See chapters 2 and 3 for 1991 estimates.

rising education levels on the employment and income status of indigenous Australians over time. There is however, some evidence that rising levels of educational attainment have played an important part in increasing the incomes of minority groups in the US. (Krueger and Card 1992).

Two measures of comparative (indigenous and other Australians) educational attainment are presented here: the age on leaving school (Table 1.1) and the qualifications held (Table 1.2). In the interests of economy of space, data have been presented for the indigenous population in total as there were not major differences between the sexes. Both tables show a general trend of rising educational attainment, but the educational attainment of indigenous people remained well below that of other Australians.

As Table 1.1 shows the percentage of the adult indigenous population who had not attended school fell from 14.3 per cent in 1976 to 5.4 per cent in 1991. This represents a 62.2 per cent decline in the share of the adult population who had not attended school. The share of those who stayed at school at least until the age of 17 years more than doubled from 8.6 per cent in 1976 to 20.6 per cent in 1991. While the percentage of the rest of the Australian population who had not attended school was very small and did not change over this period, there was also a large increase in those who had stayed on at school until the age of 17 years or more.

The last section of the table presents the ratios of the indigenous to non-indigenous share in each age-on-leaving school category. Despite the substantial decline in the share of indigenous people who had not attended school, it remained over five times greater than the share of other Australians who had not attended school. Similarly, the increase in the ratio for those who had left school aged 17 years and over shows that

TABLE 1.1. THE AGE ON LEAVING SCHOOL FOR INDIGENOUS AND OTHER AUSTRALIANS AGED 15 YEARS AND OVER, 1976-91(a)
(per cent)

	1976	1981	1986	1991	Change in share 1976-91
Indigenous persons					
Less than 15 years	28.4	25.9	22.6	19.7	-30.6
15-16 years	48.8	51.0	55.7	54.3	11.3
17+ years	8.6	10.7	13.7	20.6	139.5
Did not attend school	14.3	12.5	7.9	5.4	-62.2
Total	100.0	100.0	100.0	100.0	
Other Australians					
Less than 15 years	31.0	26.9	22.8	17.2	-44.5
15-16 years	47.5	48.1	47.8	45.8	-3.6
17+ years	20.4	24.2	28.6	36.0	76.5
Did not attend school	1.0	0.8	0.8	1.0	0.0
Total	100.0	100.0	100.0	100.0	
Ratio of Indigenous / Other Australians					
Less than 15 years	0.92	0.96	0.99	1.15	
15-16 years	1.03	1.06	1.17	1.19	
17+ years	0.42	0.44	0.48	0.57	
Did not attend school	14.30	15.60	9.90	5.40	

(a) Information on the school leaving age of the Aboriginal adult population not attending school was not presented in 1971. Data however, are available for the highest level of schooling for the whole Aboriginal population, including both adults and children. Among those not currently attending school at the time of the 1971 Census, 26.3 per cent had never attended school. The figures presented here in the table for later years do not include those still attending school.

Source: 1976, 1981, 1986 and 1991 Censuses.

TABLE 1.2. THE HIGHEST QUALIFICATION HELD BY INDIGENOUS AND OTHER AUSTRALIANS AGED 15 YEARS AND OVER, 1971-91
(per cent)

	1971	1976	1981	1986	1991(a)	Change in share 1971-91
Indigenous persons						
Tertiary diplomas and degrees(b)	0.2	0.6	0.2	0.4	0.9	350.0
Certificates (c)	2.2	5.4	4.8	10.4	8.4	281.8
No qualifications	97.6	94.0	95.0	89.3	90.7	-7.1
Total	100.0	100.0	100.0	100.0	100.0	
Other Australians						
Tertiary diplomas and degrees(b)	2.0	3.2	4.7	5.6	8.7	335.0
Certificates(c)	18.6	21.7	22.9	23.8	22.4	20.4
No qualifications	79.4	75.1	72.5	70.7	68.9-13.2	
Total	100.0	100.0	100.0	100.0	100.0	
Ratio of indigenous / other Australians						
Tertiary diplomas and degrees(b)	0.10	0.19	0.04	0.07	0.10	
Certificates(c)	0.12	0.25	0.21	0.44	0.38	
No qualifications	1.23	1.25	1.31	1.26	1.32	

(a) Changes in the Australian Bureau of Statistics Classification of Qualifications (ABSCQ) between 1986 and 1991 and the reclassification of some qualifications (for example nursing) from certificates to tertiary degrees mean that figures for the two categories of qualifications presented in the table for 1991 are not directly comparable with earlier years. However, the 'no qualification' category can be directly compared with earlier years. (b) This category includes higher degrees, graduate diplomas and bachelor's degrees. (c) This category includes diplomas, trade and other certificates, qualifications not classified by level and those inadequately described.

Source: 1976, 1981, 1986 and 1991 Censuses.

there was some catching up to other Australians even though the share remained well below that of other Australians.

The effect of the lower age on leaving school for indigenous Australians is apparent in the very high percentage with no qualifications (Table 1.2). Although the percentage with some qualification rose from 2.4 per cent in 1971 to 9.3 per cent in 1991, the majority of indigenous people still had no educational qualification. This was also true for the non-indigenous population although to a lesser extent. Among non-indigenous Australians, the percentage with some educational qualification rose from 20.6 per cent in 1971 to 31.1 per cent in 1991. The ratios presented at the bottom of the table show that the growth in the share of tertiary graduates in the indigenous population was similar to that of other Australians but the share of those with certificates grew more rapidly than for other Australians. In 1991 the ratio of the shares of the indigenous and non-indigenous populations in this category was 0.38 compared with 0.12 in 1971. The implications of the lower level of educational attainment for the economic status of indigenous Australians will be investigated more formally in chapters 2 and 3, but first a description of the labour force status of indigenous Australians will be presented.

Indigenous people in the labour market

Table 1.3 presents data on the labour force status of indigenous persons compared with the Australian totals as reported in each of the censuses since 1971.³ In each of the census years, indigenous Australians were less likely to be in employment than Australians in general and more likely to be unemployed and not in the labour force. Between 1971 and 1986 the share of indigenous people aged 15 years and over who were in employment, actually fell from 41.1 per cent to 31.3 per cent. This was followed by some improvement in the employment share which rose to 37.1 per cent in 1991. Over the period there was a four-fold increase in the proportion of indigenous people who were unemployed, although the share fell from its peak of 17.1 per cent in 1986 to 16.5 per cent in 1991. The share of indigenous Australians who were classified as being not in

³ Where possible, comparisons have been made between indigenous and other Australians (non-indigenous) but, where published sources are used, it has sometimes been necessary to compare indigenous people with Australian totals, that is including indigenous people. As indigenous people accounted for less than two per cent of the Australian population in each census year, the use of these total figures should not distort the findings.

TABLE 1.3. THE LABOUR FORCE STATUS OF THE INDIGENOUS AND TOTAL POPULATIONS AGED 15 YEARS AND OVER, 1971-1991
(per cent)

	Males		Females		Persons	
	Indigenous	Total	Indigenous	Total	Indigenous	Total
1971						
Employed(a)	60.4	79.1	21.7	36.3	41.4	57.7
Unemployed(b)	6.5	1.2	1.9	0.8	4.2	1.0
Total labour force(c)	66.9	80.3	23.6	37.1	45.6	58.7
Not in the labour force	33.1	19.7	76.4	62.9	54.4	41.3
1976						
Employed(a)	56.2	76.1	25.1	41.6	40.7	58.7
Unemployed(b)	12.6	3.2	5.1	2.2	8.8	2.7
Total labour force(c)	68.8	79.3	30.2	43.8	49.5	61.4
Not in the labour force	31.2	20.7	69.8	56.2	50.5	38.6
1981						
Employed(a)	47.0	73.1	24.8	42.5	35.7	57.6
Unemployed(b)	16.4	4.2	7.1	3.1	11.6	3.7
Total labour force(c)	63.4	77.3	31.9	45.6	47.3	61.3
Not in the labour force	36.6	22.7	68.1	54.4	52.7	38.7
1986						
Employed(a)	40.4	66.9	22.7	42.3	31.3	54.4
Unemployed(b)	22.7	6.6	11.8	4.5	17.1	5.6
Total labour force(c)	63.1	73.5	34.5	46.8	48.3	60.0
Not in the labour force	36.9	26.5	65.5	53.2	51.7	40.0
1991						
Employed(a)	45.0	64.9	29.5	46.7	37.1	55.6
Unemployed(b)	21.4	9.1	11.8	5.5	16.5	7.3
Total labour force(c)	66.4	74.0	41.3	52.2	53.5	62.9
Not in the labour force	33.6	26.0	58.7	47.8	46.5	37.1
Change in share 1971-91 (percentage points)						
Employed(a)	-15.4	-14.2	7.8	10.4	-4.3	-2.1
Unemployed (b)	14.9	7.9	9.9	4.7	12.3	6.3
Total labour force (c)	-0.5	-6.3	17.7	15.1	7.9	4.2
Not in the labour force	0.5	6.3	-17.7	-15.1	-7.9	-4.2

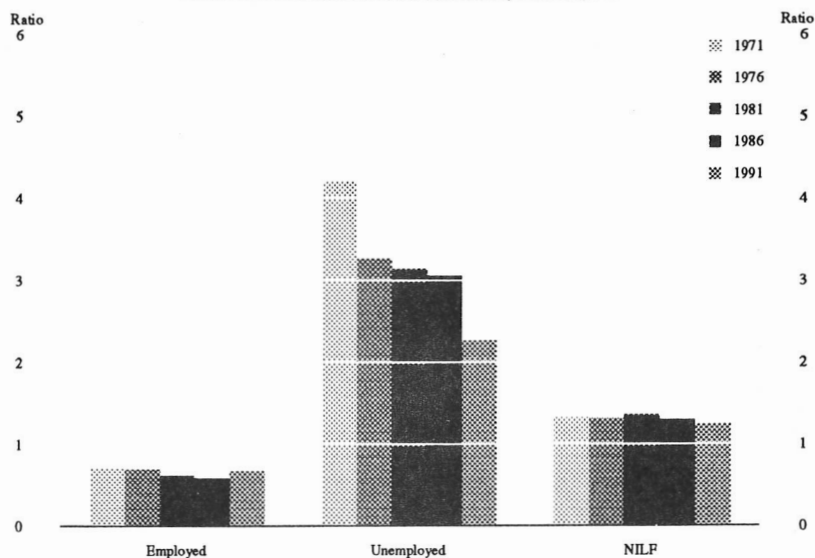
(a) The ratio of those in full and part-time employment to the population aged 15 years and over. (b) The ratio of those who were unemployed (actively seeking work) to the population aged 15 years and over. (c) The ratio of those in employment and unemployed to the total population aged 15 years and over.

Source: Tesfaghiorghis and Altman (1991), 1991 Census.

the labour force fell between 1971 and 1991 but remained at almost half the population over 15 years of age. This was substantially higher than the share for non-indigenous Australians.

Figure 1.1 presents a summary measure of the ratios of the share of indigenous people in each of the labour force categories divided by the share of all Australians in the same category. A ratio greater than one therefore implies that a larger proportion of indigenous people fell into that category than did Australians in general. There was some deterioration in the ratio for those in employment between 1971 and 1986 followed by some improvement between 1986 and 1991. Although unemployment had increased substantially for indigenous Australians between 1971 and 1991, the increase in the share of the unemployed was even greater for Australians in general. The unemployed ratio fell over the twenty year period but the share of the indigenous population who were unemployed remained over twice that of the Australian population in general. The share of indigenous Australians who were not in the labour force remained consistently above that of Australians in general with little change in the ratio taking place. There were some important differences in the results for males and females which shall now be examined.

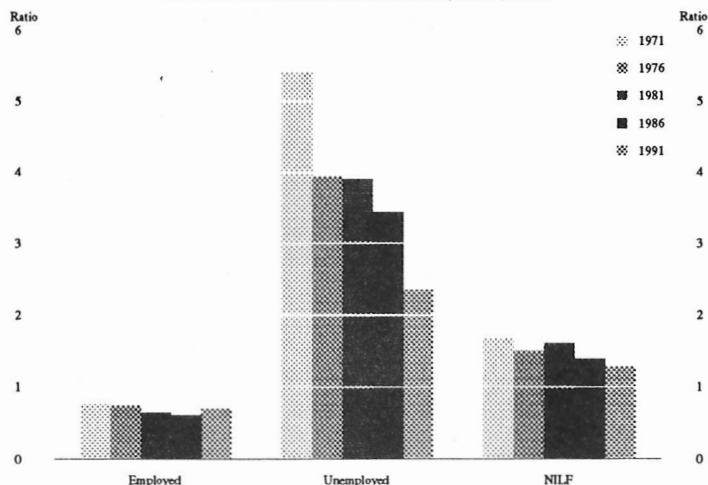
FIGURE 1.1: THE RATIO OF THE INDIGENOUS/NON-INDIGENOUS SHARE IN EACH LABOUR FORCE CATEGORY, PERSONS, 1971-91



Perhaps the most dramatic feature of the results for males is the decline by a third in the percentage of indigenous males in employment from 60.4 per cent in 1971 to 40.4 per cent in 1986. The proportion of males in employment in the total population also fell, but by a smaller 15 per cent from 79.1 per cent to 66.9 per cent. Between 1986 and 1991 there was a notable change in the trend of declining employment for indigenous males. In 1991 a larger percentage of indigenous males were in employment than in 1986. This was in contrast to the continuing decline in the percentage of total Australian males in employment. While a larger percentage of Australian males were unemployed in 1991 than in 1986, the percentage of indigenous males who were unemployed as measured by the census actually fell slightly between the two censuses.

Figure 1.2 presents a summary comparison of the different labour force status of indigenous Australians compared with all Australian males. The ratio of the share of males in employment was less than one for the whole period. While it declined between 1971 and 1986, there was some improvement between the last two census years. In 1971, the share of indigenous males who were unemployed was 5.4 times that of Australian males in general and while indigenous unemployment remained high, the Australian total increased even more dramatically. In 1991, the unemployment ratio for males fell to 2.3, although much of the

FIGURE 1.2: THE RATIO OF THE INDIGENOUS/NON-INDIGENOUS SHARE IN EACH LABOUR FORCE CATEGORY, MALES, 1971-91



'improvement' in the relative position of indigenous males can be attributed to the deterioration in the position of Australian males in general.

The result of a rising share for employment and a declining share for unemployment is perhaps surprising given the expected effects of the deteriorating macroeconomic conditions between 1986 and 1991 on the unemployment rate of a relatively disadvantaged group such as indigenous males. The turnaround in the employment trend for indigenous males probably reflects the positive employment impacts of the Aboriginal Employment Development Policy (AEDP) and in particular, the associated expansion of the Community Development Employment Projects (CDEP) scheme. Under this scheme, indigenous people can forego their individual welfare entitlements which are placed in a common pool, and work for a community on a part-time basis. The 18,000 people working under this scheme in 1991 were, in principle, classified as employed in the census.⁴ The effects of the AEDP and CDEP on indigenous employment status will be a recurring theme of this monograph.

The employment outcomes for females differed from that of males. The proportion of females in employment actually rose over the period 1971-91. Indigenous females were, however, less likely to be in employment than were Australian females in general. The increase in employment was offset by a reduction in the proportion of females who considered themselves outside the labour force, but females appear to have also moved into unemployment. Unemployment among indigenous females rose from 1.9 per cent of the indigenous female population in 1971 to 11.8 per cent in 1986 and remained at that level in 1991. There was also a substantial increase in unemployment over the same period among the total female population, from 0.8 per cent to 5.5 per cent. In contrast to the experience of indigenous females, unemployment grew between 1986 and 1991 for Australian females in general.

The summary measure of labour force status for females is presented in Figure 1.3. They show smaller differences for indigenous females and the total female population than were found for indigenous males. While the share of indigenous females in employment remained at about half that of Australian females in total, the unemployed share was over twice as high.

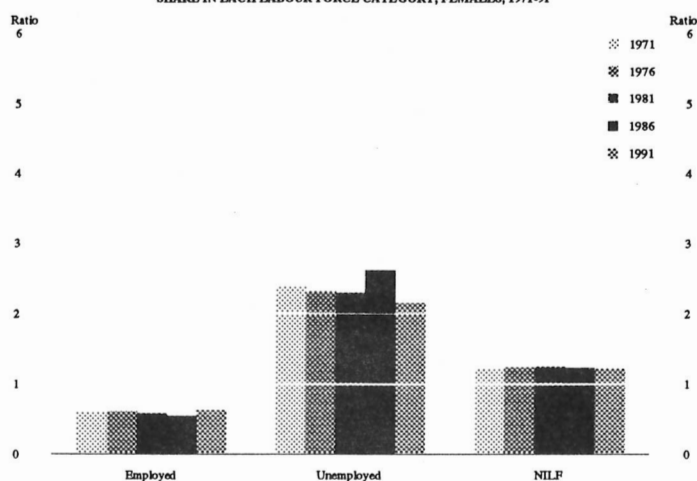
Variations in labour force status with age

One issue of particular interest for this study is the manner in which people's attachment to the labour force varies over the lifecycle (see chapters 4 and 5). Young people face problems associated with the transition from education to employment and adult status, while older workers are faced with the decision of when to retire and the effects of deteriorating health on the ability to participate in paid employment. It is therefore appropriate for the purposes of this study, to present employment data in a lifecycle context. As lifecycle effects differ markedly between males and females, Figures 1.4-1.7 present the employment/population ratios by age category for indigenous and other Australian males and females taken from each Census since 1976.⁵

⁴ For fuller discussions of the CDEP scheme, see Sanders (1988), Altman and Sanders (1991b), Morony (1991) and Altman and Daly (1992a). Although CDEP scheme participants were not explicitly identified as such, evidence from the 1986 Census suggests that all CDEP scheme participants were not classified to the employed category (Altman and Daly 1992a). They appear to be included in all labour force categories. A particular effort was made by the ABS to have CDEP scheme participants classified as employed in the 1991 Census. However, to the extent that this was unsuccessful, the figures presented in the text will overstate the share of CDEP scheme employment in total employment.

⁵ The 1971 Census publication on indigenous Australians did not include a breakdown of labour force status by age.

FIGURE 1.3: THE RATIO OF THE INDIGENOUS/NON-INDIGENOUS SHARE IN EACH LABOUR FORCE CATEGORY, FEMALES, 1971-91



Among males in each age group, the percentage in employment was lower for indigenous males than in the total population (compare Figures 1.4 and 1.5). The employment/population ratio for indigenous males was about 60 per cent of that of all Australian males and the decline in the ratio was particularly pronounced for indigenous males over 45 years of age. Another important result is the downward displacement of the profiles between 1976 and 1986 for both indigenous males and the Australian total with each age category having a lower employment/population ratio than the comparable age group in an earlier census. For Australian males in general, this trend of declining employment/population ratios appeared to have slowed down between 1986 and 1991 when little change in the ratios was recorded. However, for indigenous males, there was a reversal of the pattern. Amongst all age categories, except those males over 65 years, the employment/population ratio was higher in 1991 than in 1986. This result once again, probably reflects the positive effects of the AEDP on employment status.

The figures for both indigenous males and the Australian total show a lifecycle pattern of relatively low employment/population rates among young males aged 15-24, followed by a substantial increase in employment during the prime working ages, and a decline among older workers. While the increased share of those in employment took place at the same stage of the lifecycle for indigenous males and the Australian total, the timing of the decline in employment differed. Among the total Australian male population the decline in employment began in the 55-59 age group, but among indigenous males, it began earlier, in the 45-49 year old age group.

The relationship between age and employment is very different for females than for males and it has been changing over time in different ways (compare Figures 1.6 and 1.7 with Figures 1.4 and 1.5). The typical lifecycle pattern of the employment/population ratio for females is roughly M-shaped. There is an initial rise with age in the proportion in employment as females complete their education and enter the workforce. This is followed by a decline during the child-bearing years and a second increase among older females with older children. The proportion in employment falls again as retirement age approaches. This pattern was in evidence among the total Australian female population (see Figure 1.6), but was far less pronounced for indigenous females (see Figure 1.7). The

proportion of indigenous females leaving employment between the ages of 20-24 and 30-34 in 1976-86 was smaller than among the total female population. In fact, in 1991, there was no evidence of the M pattern with the employment/population ratio of indigenous females reaching its peak in the 35-44 age range. This is a surprising change in a widely observed pattern of lifecycle behaviour. It may reflect changing patterns of labour force participation between cohorts, so that younger indigenous females are more likely to be in employment than their older counterparts thus creating an unusual cross-sectional profile. If it can be attributed to the CDEP scheme, it suggests either that the scheme has had a very powerful effect in changing behaviour or that the inclusion among CDEP participants of such groups as sole parents who may be paid under the scheme for staying at home to look after their children, has created a misleading impression of the employment status of many indigenous females. A more detailed investigation of this unusual lifecycle pattern is an important issue for further research.

The employment/population ratio for indigenous females was much lower in each age category than for Australian females in general, usually less than half. There were, however, common trends in evidence with the proportion in employment among the 15-19 year olds declining between 1976 and 1991 and the proportion in employment among 20-44 year olds increasing for both indigenous females and Australian females in general. They also shared a common pattern of declining employment among females over 50 years of age.

Variations in labour force status with settlement size.

In addition to the effects of the lifecycle, another important determinant of labour force status for indigenous people is settlement size (see Daly et al. 1993, Taylor 1993^a and 1993^b). Table 1.4 presents the labour force status of indigenous and other Australians according to the size of settlement in which they were enumerated in 1981 and 1991.⁶ It is important to note the substantial differences in the distribution of indigenous people and other Australians across the three categories. Over two-thirds of indigenous people lived outside the major urban centres compared with about a third of the non-indigenous population.

In 1991, indigenous males had a lower employment rate and a higher unemployment rate than other Australian males in each settlement category. There were however, differences between the categories. They were more likely to be in the labour force if they lived in a major urban centre than if they lived in a rural area. This contrasted with a small difference in the labour force participation rate of other Australian males in the three sections-of-State. The unemployment rate was highest for indigenous males in the major urban centres and for other Australian males in the other urban category. The relatively low rate of indigenous male unemployment in the rural areas is probably due to the existence there of CDEP scheme communities where participants in the scheme were to be classified as employed rather than unemployed for the purposes of the census (Taylor 1993^a, 1993^b).

⁶ The comparison has been limited to 1981 and 1991 because of limitations in the availability of data. These categories are derived from the section-of State variable in the Census. The three settlement size categories used here are defined as follows: an urban centre is 'one or more adjoining collection districts with urban characteristics and representing a population cluster of 1,000 or more people' (ABS 1986: 150). Major urban centres had over 100,000 inhabitants and other urban areas between 1,000 and 99,999 inhabitants. The rural category used here includes both ABS categories 'rural locality' and 'rural balance'. Localities include population clusters which can 'be expected to contain at least 200 people (but not more than 999) by the next census; have at least 40 occupied non-farm dwellings with a discernible urban street pattern; have a discernible nucleus of population.' (ABS 1986: 97). The rural balance includes all the collection districts not included elsewhere (ABS 1986: 132). The definitions remained unchanged in 1991.

In each category, females were less likely to be in the labour force than were their male counterparts and indigenous females had a particularly low employment rate. In the major urban centres where the employment rate was highest for indigenous females, about a third were in employment compared with almost half of other Australian females. The unemployment rate was highest for Aboriginal females in the other urban centres and there is some evidence of a 'CDEP scheme effect' in reducing the unemployment rate of Aboriginal females in the rural areas.

In comparison with 1981, there were some significant changes in the distribution of the indigenous population. The share of the indigenous population living in the major urban centres increased by 41 per cent and the share in rural areas decreased. Unemployment grew significantly, especially for the non-indigenous population in all sections-of-State. The one exception was the fall in the share of the indigenous population in other urban centres who were unemployed. The trend of increasing female participation in paid employment was apparent in each section-of-State.

FIGURE 1.4: EMPLOYMENT/POPULATION RATIO FOR NON-INDIGENOUS MALES, 1976-91

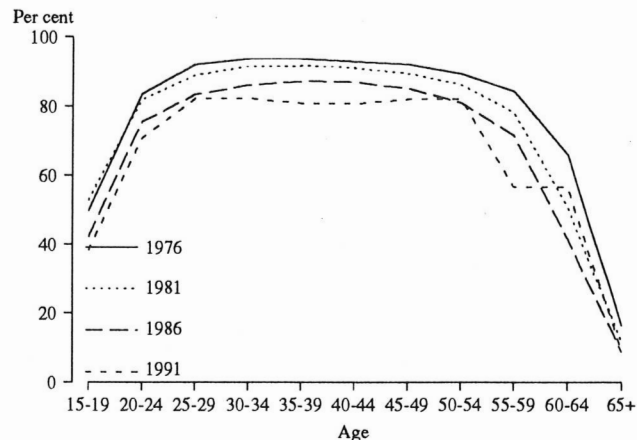


FIGURE 1.5: EMPLOYMENT/POPULATION RATIO FOR INDIGENOUS MALES, 1976-91

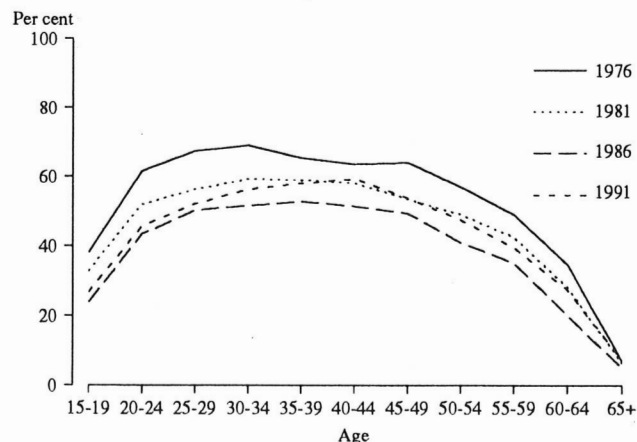


FIGURE 1.6: EMPLOYMENT/POPULATION RATIO FOR NON-INDIGENOUS FEMALES, 1976-91

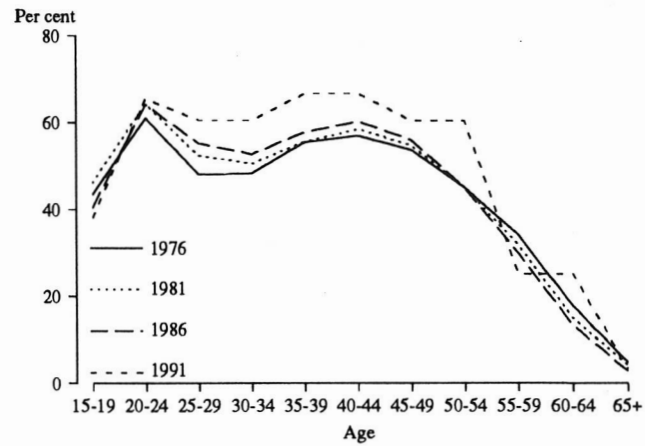


FIGURE 1.7: EMPLOYMENT/POPULATION RATIO FOR INDIGENOUS FEMALES, 1976-91

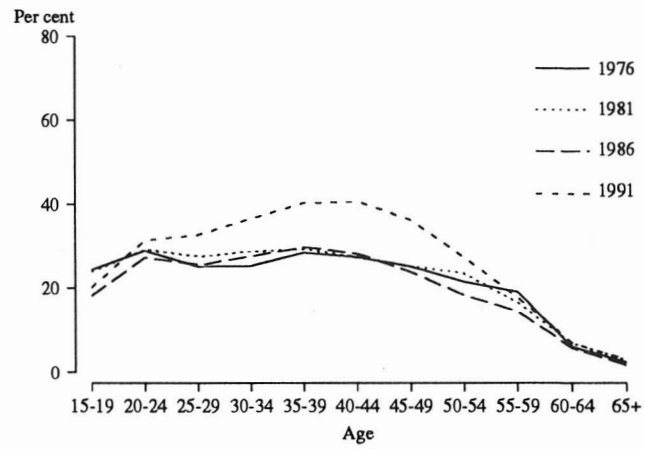


TABLE 1.4. LABOUR FORCE STATUS OF INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS BY SECTION-OF-STATE, 1981 AND 1991

Section-of-State	Indigenous		Non-indigenous			
	Major urban	Other urban	Rural	Major urban	Other urban	Rural
<i>Males</i>						
1981						
15+ population in each section-of-State (%)	19.5	36.1	44.4	63.8	22.0	14.2
Labour force status						
Employed	50.4	44.6	47.3	73.3	71.1	77.0
Unemployed	19.5	19.4	12.5	4.1	4.2	3.9
NILF(a)	30.0	35.9	40.1	22.6	24.7	19.1
Total	8,750	16,219	19,951	3,415,648	1,176,629	757,732
1991						
15+ population in each section-of-State (%)	28.6	34.3	37.1	63.5	21.6	14.9
Labour force status						
Employed	48.2	48.3	48.3	65.1	62.4	68.6
Unemployed	23.6	11.3	13.9	9.0	9.6	8.7
NILF(a)	28.2	40.5	37.9	25.9	28.1	22.7
Total (numbers)	19,969	23,898	25,847	3,952,097	1,342,685	929,249
1991-81 change						
15+ population in each section-of-State (%)	46.7	-5.0	-16.4	0.0	-1.2	4.9
Labour force status						
Employed	-4.4	8.3	2.1	-11.2	-12.2	-0.11
Unemployed	21.0	-41.8	11.2	119.5	128.6	123.1
NILF(a)	6.0	12.8	5.5	14.6	13.8	18.8
<i>Females</i>						
1981						
15+ population in each section-of-State (%)	21.0	38.8	40.2	65.8	22.0	12.2
Labour force status						
Employed	28.1	24.0	23.9	43.6	37.3	47.3
Unemployed	8.7	7.8	5.5	3.0	3.3	2.9
NILF(a)	63.3	68.2	70.6	53.4	59.4	49.8
Total	9,862	18,201	18,833	3,604,274	1,205,716	667,602
1991						
15+ population in each section-of-State (%)	28.5	40.8	30.7	65.1	21.8	13.0
Labour force status						
Employed	35.3	26.4	28.4	47.9	42.4	49.4
Unemployed	12.4	14.0	8.3	5.5	5.4	5.1
NILF(a)	52.3	59.6	63.3	46.6	52.2	45.5
Total (numbers)	22,493	32,122	24,183	4,169,798	1,398,980	835,354
1991-81 change						
15+ population in each section-of-State (%)	35.7	5.2	-23.6	-1.1	-1.0	6.6
Labour force status						
Employed	25.6	10.0	18.8	9.9	13.7	4.4
Unemployed	42.5	79.5	50.9	83.3	63.6	75.9
NILF(a)	-17.4	-12.6	-10.3	-12.7	-12.1	-8.6

For footnotes see end of table.

TABLE 1.4. LABOUR FORCE STATUS OF INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS BY SECTION-OF-STATE, 1981 AND 1991 — continued

Section-of-State	Indigenous			Non-indigenous		
	Major urban	Other urban	Rural	Major urban	Other urban	Rural
Persons						
1981						
15+ population in each section-of-State (%)	20.3	37.5	42.2	64.8	22.0	13.2
Labour force status						
Employed	38.6	33.7	36.0	58.0	54.0	63.1
Unemployed	13.8	13.3	9.1	3.5	3.8	3.4
NILF(a)	47.6	53.0	54.9	38.4	42.2	33.5
Total	18,612	34,420	38,784	7,019,922	2,382,345	1,425,334
1991						
15+ population in each section-of-State (%)	28.6	37.7	33.7	64.3	21.7	14.0
Labour force status						
Employed	41.3	35.7	38.6	56.3	52.2	59.5
Unemployed	17.7	12.8	11.2	7.2	7.4	7.0
NILFa	41.0	51.4	50.2	36.5	40.4	33.5
Total (numbers)	42,462	56,020	50,030	8,121,895	2,741,665	1,764,603
1991-81 change						
15+ population in each section-of-State (%)	40.9	0.0	-20.1	-1.0	-1.4	6.1
Labour force status						
Employed	7.0	5.9	7.2	-2.9	-3.3	5.7
Unemployed	28.3	-3.8	23.1	105.7	94.7	105.0
NILF(a)	-13.9	-3.0	-8.6	4.9	4.3	0.0

(a) NILF means not in the labour force.

Source: 1991 Population Census, special ABS tabulations, 1981, Census microfiche.

In summary, the census evidence shows that indigenous people were, in general, less likely to be in employment and more likely to be unemployed or outside the labour force than were other Australians. A major feature of the comparison over time is the marked change between the employment trends for indigenous Australians in the periods 1971-86 and 1986-91. Much of the improvement in the employment ratio for indigenous people in 1991 compared with earlier years is almost certainly attributable to the growing participation in labour market programs under the AEDP, including the CDEP scheme.

Industry and occupation of employment

Not only were indigenous people less likely to be in employment than the rest of the population, but there were significant differences between indigenous and other Australians in their types of employment. The public sector played a more important role in indigenous employment over the period than it did for other Australians. While the share of indigenous people employed by the government rose by 11.9 per cent between 1976 and 1991, the share of total employment accounted for by government fell by 9.4 per cent among the Australian population in general. In 1991, 34.9 per cent of indigenous people in employment were working in the public sector compared with 22.3 per cent for the Australian population in general (see Table 1.5).

Indigenous people are probably even more dependent on government for employment than these figures suggest. Many indigenous community organisations wholly funded by government, are included in the private sector category (Altman and Daly 1992b, Altman and Taylor 1994). Altman and Daly (1992^b) have argued that this dependence on public sector employment has the negative implication that indigenous employment is very vulnerable to any changes in government policy.

However, it has probably helped to insulate indigenous people from the full effects of recessions.

The importance of the public sector and other non-profit organisations is also apparent in the industry of employment data taken from the census (see Table 1.6).⁷ The industries with a large public sector component, gas, electricity and water; communications; public administration and community services had increased their share of indigenous employment to 46.4 per cent compared with 31.1 per cent in 1971 (a 49 per cent increase in the share). Over the same period, among non-indigenous Australians, the employment share of these industries had increased from 19.8 per cent to 26.1 per cent (a 32 per cent increase in the share). These industries continued to increase their share in indigenous employment between 1986 and 1991 when they declined in importance amongst non-indigenous people.

TABLE 1.5. EMPLOYMENT BY INDUSTRY SECTOR FOR THE INDIGENOUS AND TOTAL AUSTRALIAN POPULATIONS, 1976-91
(per cent)

<i>Sector of employment</i>	<i>1976</i>	<i>1986</i>	<i>1991</i>	<i>Change in share 1976-91</i>
Indigenous people				
Commonwealth government	7.3	9.4	8.3	13.7
State government	18.7	23.3	16.9	-9.6
Local government	5.2	6.9	9.9	90.4
Total government sector	31.2	39.6	34.9	11.9
Private sector(a)	68.8	60.4	65.1	-5.4
Total	100.0	100.0	100.0	
Australian population				
Commonwealth government	7.6	7.7	6.7	-11.8
State government	15.3	15.7	13.9-9.2	
Local government	1.7	2.2	2.1	23.4
Total government sector	24.6	25.6	22.3	-9.4
Private sector(a)	75.4	74.4	77.7	3.1
Total	100.0	100.0	100.0	
Ratio of indigenous / Australian population				
Commonwealth government	0.96	1.22	1.24	
State government	1.22	1.48	1.22	
Local government	3.06	3.14	4.71	
Total government sector	21.27	1.55	1.57	
Private sector(a)	0.91	0.81	0.84	

(a) The 'not stated' category was included in the private sector in 1976. In the interests of consistency it has been included as private sector for 1986 and 1991.

Source: *Tesfaghiorghis and Altman (1991), 1991 Census.*

In 1971 over half the indigenous people in employment were working in agriculture and community services, while three industries covered half of the non-indigenous employment (manufacturing, wholesale and retail trade and community services). These same three industries accounted for half the employment of other Australians in 1991, but public administration and wholesale and retail trade had replaced agriculture as major employers of indigenous people. The share of agriculture in indigenous employment declined to about a fifth of the 1971 level over the period. Community services, however, remained important throughout.

⁷ Tesfaghiorghis and Altman (1991) presents a similar table for the industry breakdown comparing the indigenous and the total population by sex.

TABLE 1.6. MAJOR INDUSTRY OF THE EMPLOYED INDIGENOUS AND OTHER AUSTRALIANS, 1971-91
(per cent)

	1971	1976	1981	1986	1991	Change in share 1971-91
Indigenous population						
Agriculture	24.3	11.6	10.2	7.1	4.8	-80.2
Mining	2.6	1.7	1.9	1.9	1.6	-38.5
Manufacturing	11.7	14.5	8.7	8.8	7.5	-35.9
Electricity, gas, water	0.8	1.2	1.4	1.6	1.0	25.0
Construction	10.1	11.0	5.2	6.0	4.9	-51.5
Wholesale & retail trade	6.1	9.8	6.6	9.5	10.0	63.9
Transport & storage	3.3	4.9	5.6	6.2	3.9	18.2
Communications	0.7	1.1	1.1	1.6	1.3	85.7
Finance, property etc	1.2	2.9	2.2	3.9	3.8	216.7
Public administration	3.8	9.5	10.4	12.1	12.7	234.2
Community services	25.8	15.4	22.0	28.4	31.4	21.7
Recreation	3.8	4.1	3.6	5.4	5.7	50.0
Not classified, not stated	6.6	12.3	21.2	7.3	11.6	75.8
Total	100.0	100.0	100.0	100.0	100.0	
Other Australians						
Agriculture	7.3	7.0	6.0	5.6	4.5	-38.4
Mining	1.4	1.3	1.4	1.4	1.2	-14.3
Manufacturing	23.2	19.7	17.8	15.0	13.2	-43.1
Electricity, gas, water	1.7	1.8	2.0	1.9	1.3	-23.5
Construction	7.9	7.4	6.3	6.6	5.9	-25.3
Wholesale & retail trade	18.9	18.1	17.4	18.9	18.9	0.0
Transport & storage	5.2	5.0	5.2	5.3	4.6	-11.5
Communications	2.0	1.9	2.0	2.1	1.6	-20.0
Finance, property etc	7.0	7.2	8.5	10.2	11.1	58.6
Public administration	5.4	5.6	5.6	6.0	5.6	3.7
Community services	10.7	13.5	14.9	17.3	17.6	64.5
Recreation	5.1	4.9	5.2	6.1	7.0	37.3
Not classified, not stated	4.1	6.7	7.6	5.9	7.4	80.5
Total	100.0	100.0	100.0	100.0	100.0	
Ratio indigenous / Other Australians						
Agriculture	3.33	1.66	1.70	1.27	1.07	
Mining	1.86	1.31	1.36	1.36	1.33	
Manufacturing	0.50	0.74	0.49	0.59	0.57	
Electricity, gas, water	0.47	0.67	0.70	0.84	0.77	
Construction	1.28	1.49	0.83	0.91	0.83	
Wholesale & retail trade	0.32	0.54	0.38	0.50	0.53	
Transport & storage	0.63	0.98	1.08	1.17	0.85	
Communications	0.35	0.58	0.55	0.76	0.81	
Finance, property etc	0.17	0.40	0.26	0.38	0.34	
Public administration	0.70	1.70	1.86	2.02	2.27	
Community services	2.41	1.14	1.48	1.64	1.78	
Recreation	0.75	0.84	0.69	0.89	0.81	
Not classified, not stated	1.61	1.84	2.79	1.24	1.57	

Source: Altman and Daly (1992) and 1991 Census.

The result that indigenous employment is particularly concentrated by industry is further emphasised by the findings of Taylor (1992^b) based on a more disaggregated industry classification. Taylor (1992^b) presents indices of industry segregation for Aborigines and Torres Strait Islanders which show that the employment of these groups is much more concentrated in particular industry classes within the broader industry divisions than for the population as a whole. Although there were differences in the distribution of the industry of employment between indigenous and other Australians, the simple correlation coefficient between the two was positive in 1991 ($r = 0.65$). Those industries which accounted for a large part of employment of non-indigenous people also accounted for a substantial share of indigenous employment. The changes in the industry shares of employment between 1971 and 1991 were also positively correlated ($r = 0.53$). Declines in the share of employment in agriculture, manufacturing and construction were in each case offset by increases in the share of employment in service industries.

Broadly similar results are apparent for each sex and are reported in Appendix tables A1.3 and A1.4. For indigenous males the sharp decline in agricultural employment and the growth of the share of employment in public administration were particularly in evidence. The correlation coefficient (r) between the shares of employment in each industry for indigenous and other Australian males did not change greatly between 1971 and 1991. However, at this level of industry aggregation, the results show an increasing positive correlation between the distribution of employment for indigenous and other Australian females.

Table 1.7 compares the occupational status of indigenous and non-indigenous people in employment. Changes in the occupational classification make it difficult to extend the comparison back in time before 1986 (Taylor 1992^c). The table shows that indigenous people were much more likely to be employed in unskilled jobs particularly labouring jobs, than were Australians in general. In 1991, 29 per cent of indigenous people in employment worked in this category compared with 13.2 per cent of the total population. There was correspondingly, a much smaller proportion of indigenous people in management and professional positions, 4.9 per cent compared with 13.1 per cent in the general population. In 1991, there was a positive, but not very strong correlation between the distribution of employment by occupation for indigenous and other Australians ($r = 0.27$). There was also a positive correlation ($r = 0.53$) in the change in the distribution of occupations between 1986 and 1991.

TABLE 1.7. OCCUPATION OF THE EMPLOYED INDIGENOUS AND OTHER AUSTRALIAN PERSONS AGED 15-64 YEARS, 1986 AND 1991
(per cent)

	1986	1991	Change in share 1986-91
<i>Indigenous people</i>			
Managers & administrators	3.6	4.9	38.9
Professionals	5.3	7.9	50.2
Para-professionals	6.3	8.3	31.8
Tradespersons	14.7	14.3	-2.7
Clerks	16.5	14.7	-10.5
Salespersons, etc.	8.6	11.0	28.5
Plant & machinery operators & drivers	10.9	9.7	-10.9
Labourers	34.2	29.1	-15.1
Total	100.0	100.0	
<i>Other Australians</i>			
Managers & administrators	12.1	13.1	8.0
Professionals	12.2	13.5	10.6
Para-professionals	6.7	7.3	9.0
Tradespersons	15.7	14.5	-7.9
Clerks	17.6	16.2	-8.0
Salespersons, etc.	12.8	14.9	16.4
Plant & machinery operators & drivers	8.4	7.5	-10.4
Labourers	14.6	13.1	-10.0
Total	100.0	100.0	
<i>Ratio indigenous / Other Australians</i>			
Managers & administrators	0.27	0.37	
Professionals	0.45	0.59	
Para-professionals	0.98	1.15	
Tradespersons	0.92	0.99	
Clerks	0.96	0.91	
Salespersons, etc.	0.65	0.74	
Plant & machinery operators & drivers	1.27	1.29	
Labourers	2.36	2.20	
Simple correlation coefficient (r) Ab/others	0.48	0.26	0.92

Source: 1986 and 1991 Censuses.

A comparison of the occupational distribution for each sex is presented in Appendix tables A1.5 and A1.6. Indigenous males were much less likely to be employed in managerial or professional occupations and were much more likely to be employed in the unskilled occupations of plant and machinery operators and drivers and labourers than were other Australian males. The correlation between the occupational distribution of indigenous and non-indigenous males was much lower than for females. Although indigenous females were relatively under-represented in the more skilled occupational groups, the differences were not nearly as pronounced as for males.

The incomes of indigenous people

Despite some improvement in the ratio of indigenous/non-indigenous median incomes between 1976 and 1991, the indigenous income remained considerably lower. In 1991, real median indigenous income was 63 per cent of that of other Australians. Those in employment had lower incomes and those unemployed and not in the labour force had incomes similar to other Australians in these categories. This pattern was repeated in each of the earlier years.

The decline in the employment ratio of indigenous males and the relatively low employment rate of indigenous females might be expected to have serious implications for the average income of indigenous people. Table 1.8 presents data on the changes in indigenous income over time for people of working age. As columns 1 and 2 show, the real median income of non-indigenous males remained constant over the period 1976-91 but there was a substantial decline for indigenous males. In 1991, the median income of indigenous males was 29 per cent lower in real terms than it had been in 1976. This change reflects the deterioration in the employment rate of indigenous males. The ratio of the median income of indigenous males compared with other Australian males fell by 19 percentage points between 1976 and 1991. The largest change in the ratio occurred between 1976 and 1981.

The largest income differences between indigenous and other Australian males were among the employed. Indigenous males in employment had a median income which was 70 per cent of other employed Australian males in 1991. For the unemployed and those outside the labour market, indigenous males had on average, the same or higher incomes in each of the census years until 1991. In that year, the ratio for the unemployed and those outside the labour force was lower than in the earlier censuses.

Although the average income of females remained below that of males, there was some growth in female incomes over the period. In contrast to the position of indigenous males that of indigenous females actually improved. The median income of indigenous females was 78 per cent higher in 1991 than it had been in 1976. Indigenous females who were not in employment had average incomes well in excess of the average for non-indigenous females in these categories. The improvement in the income status of indigenous females can probably be explained by the extension of the welfare system to cover many more indigenous people in remote areas (Altman and Sanders 1991^a, Daly and Hawke 1994^a).

TABLE 1.8. REAL MEDIAN ANNUAL INCOMES BY LABOUR FORCE STATUS AND SEX FOR INDIGENOUS AND OTHER AUSTRALIANS AGED 15-64 YEARS, 1976-91,
1981 dollars(a)

	Males			Females			Persons		
	Indigenous \$ (1)	Others \$ (2)	Ratio 1/2 (3)	Indigenous \$ (3)	Others \$ (4)	Ratio 3/4 (5)	Indigenous \$ (6)	Others \$ (7)	Ratio 6/7 (8)
<i>Labour force status</i>									
1976									
Employed	8,461	10,868	0.78	6,519	7,542	0.86	8,037	9,789	0.82
Unemployed	3,328	3,359	0.99	2,368	1,870	1.27	2,902	2,688	1.08
NILF	897	0	na	709	0	na	744	0	na
Total	6,464	10,064	0.64	2,322	3,130	0.74	3,969	7,488	0.53
1981									
Employed	8,202	12,334	0.67	6,332	8,292	0.76	7,523	10,932	0.69
Unemployed	2,708	2,640	1.03	2,211	1,788	1.24	2,577	2,344	1.10
NILF	2,508	2,438	1.03	2,162	71	30.45	2,314	366	6.32
Total	5,060	11,205	0.45	3,006	3,809	0.79	3,755	7,898	0.48
1986									
Employed	8,377	11,286	0.74	6,891	7,586	0.91	8,052	10,035	0.80
Unemployed	3,050	3,122	0.98	2,758	2,587	1.07	3,045	2,935	1.04
NILF	2,753	2,586	1.07	2,840	1,910	1.49	2,883	1,011	2.85
Total	4,795	9,800	0.49	3,444	3,859	0.89	3,966	7,052	0.56
1991									
Employed	8,315	11,931	0.70	6,948	8,358	0.83	7,704	10,307	0.75
Unemployed	3,077	3,340	0.92	2,925	2,701	1.08	3,186	3,098	1.03
NILF	2,698	2,822	0.96	3,348	2,257	1.48	3,223	3,145	1.02
Total	4,574	10,070	0.45	4,134	5,100	0.81	4,159	6,584	0.63

(a) The nominal values have been adjusted by changes in the weighted average of the consumer price index in the capital cities of Australia.

Source: 1976, 1981, 1986 and 1991 Censuses.

Summary

In summary, census data show that indigenous people were less likely to be in employment than the Australian population and that those in employment were more likely to be working for the public sector or some other non-profit organisation. The decline in indigenous male employment over the period was reflected in the decline in male income. In contrast, indigenous females had higher real incomes in 1991 compared with 1976. This improvement, however, probably arose because of increased access to welfare benefits and as such should not be taken as a signal of a lasting improvement in the relative economic status of indigenous females (Daly and Hawke 1994^b).

The improvement in indigenous employment status between 1986 and 1991 is almost certainly attributable to the inclusion of CDEP workers among the employed. Whether some participants in the CDEP scheme can be really thought of as employed as the term is usually understood, is an important issue. The results presented here suggest that the inclusion of CDEP scheme participants among the employed has distorted the picture of indigenous employment status and suggests the need for a separate category of labour force status for CDEP scheme participants and participants in other labour market programs.

Among those in employment, census data show that indigenous people were more likely to be in the public sector and in unskilled occupations than were other Australians. There is some evidence of change in the industry distribution of employment over the 1971-91 period for indigenous people which is correlated with changes for other Australians. In common with other Australians, census data show a decline in the share of employment in the government sector between 1986 and 1991. This result should not be taken as evidence of a reduction in the role of

government funding in providing employment for indigenous people. It may reflect a growth in employment in indigenous community organisations which are classified as outside the public sector, but remain publicly funded. With respect to occupation, there was some movement in employment away from unskilled to more highly skilled occupations.

TABLE A1.1. EMPLOYMENT BY INDUSTRY SECTOR FOR THE INDIGENOUS AND TOTAL AUSTRALIAN MALE POPULATIONS, 1976-91
(per cent)

<i>Sector of employment</i>	<i>1976</i>	<i>1986</i>	<i>1991</i>	<i>Change in share 1976-91</i>
<i>Indigenous males</i>				
Commonwealth government	6.8	8.5	7.2	5.9
State government	18.0	20.9	14.0	-22.2
Local government	6.9	9.3	11.9	72.5
Total government sector	31.7	38.7	33.1	4.4
Private sector(a)	68.3	61.3	66.9	-2.0
Total	100.0	100.0	100.0	
<i>Australian population</i>				
Commonwealth government	8.5	8.5	6.9	-18.8
State government	14.4	14.2	11.9	-17.4
Local government	2.3	2.7	2.4	4.3
Total government sector	25.2	25.4	21.3	-15.5
Private sector(a)	74.8	74.6	78.7	5.2
Total	100.0	100.0	100.0	
<i>Ratio of indigenous / Australian population</i>				
Commonwealth government	0.80	1.00	1.04	
State government	1.25	1.47	1.18	
Local government	3.00	3.44	4.96	
Total government sector	1.26	1.52	1.55	
Private sector(a)	0.91	0.82	0.85	

(a) The 'not stated' category was included in the private sector in 1976. In the interests of consistency it has been included as private sector for 1986 and 1991.

Source: Tesfaghiorgis and Altman (1991), 1991 Census.

TABLE A1.2. EMPLOYMENT BY INDUSTRY SECTOR FOR THE INDIGENOUS AND TOTAL AUSTRALIAN FEMALE POPULATIONS, 1976-91
(per cent)

<i>Sector of employment</i>	<i>1976</i>	<i>1986</i>	<i>1991</i>	<i>Change in share 1976-91</i>
<i>Indigenous females</i>				
Commonwealth government	8.4	11.0	9.7	15.5
State government	20.2	27.3	21.0	4.0
Local government	1.4	2.9	6.6	371.4
Total government sector	30.0	41.2	37.3	24.3
Private sector(a)	70.0	58.8	62.7	-10.4
Total	100.0	100.0	100.0	
<i>Australian population</i>				
Commonwealth government	5.8	6.5	5.4	-6.9
State government	16.8	18.0	16.6	-1.2
Local government	0.8	1.4	1.6	2.0
Total government sector	23.4	25.9	23.6	0.0
Private sector(a)	76.6	74.1	76.4	-0.3
Total	100.0	100.0	100.0	
<i>Ratio of indigenous / Australian population</i>				
Commonwealth government	1.45	1.69	1.80	
State government	1.20	1.52	1.27	
Local government	1.75	2.07	4.13	
Total government sector	1.28	1.59	1.58	
Private sector(a)	0.91	0.79	0.82	

(a) The 'not stated' category was included in the private sector in 1976. In the interests of consistency it has been included as private sector for 1986 and 1991.

Source: Tesfaghiorgis and Altman (1991), 1991 Census.

TABLE A1.3 MAJOR INDUSTRY OF EMPLOYED INDIGENOUS AND OTHER AUSTRALIAN MALES, 1971-91
(per cent)

	1971	1976	1981	1986	1991	Change in share 1971-91
<i>Indigenous males</i>						
Agriculture	28.1	14.6	13.9	9.4	6.8	-75.8
Mining	3.3	2.2	2.7	2.8	2.5	-24.2
Manufacturing	12.3	16.1	10.4	10.6	9.4	-23.6
Electricity, gas, water	1.0	1.8	2.0	2.3	1.5	50.0
Construction	13.1	15.5	7.6	8.8	7.5	-42.7
Wholesale & retail trade	5.4	8.4	6.0	8.4	9.2	70.4
Transport & storage	3.8	6.5	8.1	8.9	5.8	52.6
Communications	0.6	1.1	1.2	1.7	1.5	150.0
Finance, property etc	0.7	2.0	1.6	2.7	2.7	285.7
Public administration	4.2	10.3	11.7	12.9	13.2	214.3
Community services	20.1	9.4	15.5	19.6	24.5	21.9
Recreation	1.5	2.5	2.2	3.9	4.2	180.0
Not classified, not stated	6.0	9.6	17.0	7.9	11.3	88.3
Total	100	100	100	100	100	
<i>Other Australians</i>						
Agriculture	8.8	7.3	6.9	6.4	5.5	-37.5
Mining	2.0	1.8	2.1	2.1	1.2	-40.0
Manufacturing	25.2	22.9	21.1	18.1	16.5	-34.5
Electricity, gas, water	2.3	2.6	2.9	2.9	2.0	-13.0
Construction	10.9	10.5	9.0	9.4	8.9	18.3
Wholesale & retail trade	16.8	16.8	16.1	17.5	18.0	7.1
Transport & storage	6.7	6.7	7.1	7.2	6.2	-7.5
Communications	2.2	2.2	2.4	2.5	2.0	-9.1
Finance, property etc	5.8	6.2	7.3	8.8	9.9	70.7
Public administration	6.0	6.3	6.4	6.7	6.2	3.3
Community services	6.2	7.9	8.8	10.2	10.3	66.1
Recreation	3.1	3.3	3.8	4.6	5.4	74.2
Not classified, not stated	4.1	5.5	6.2	3.7	7.1	73.2
Total	100.0	100.0	100.0	100.0	100.0	
<i>Ratio indigenous / other Australians</i>						
Agriculture	3.19	2.00	2.01	1.47	1.24	
Mining	1.65	1.22	1.29	1.33	2.08	
Manufacturing	0.49	0.70	0.49	0.59	0.57	
Electricity, gas, water	0.43	0.69	0.69	0.79	0.75	
Construction	1.20	1.48	0.84	0.94	0.84	
Wholesale & retail trade	0.32	0.50	0.37	0.48	0.51	
Transport & storage	0.57	0.97	1.14	1.24	0.94	
Communications	0.27	0.50	0.50	0.68	0.75	
Finance, property etc	0.12	0.32	0.22	0.31	0.27	
Public administration	0.70	1.63	1.83	1.93	2.13	
Community services	3.24	1.19	1.76	1.92	2.38	
Recreation	0.48	0.76	0.58	0.85	0.78	
Not classified, not stated	1.46	1.75	2.74	2.14	1.59	
<i>Simple correlation coefficient (r)</i>						
Aboriginal/other Australians	0.48	0.69	0.33	0.47	0.44	0.56

Source: Population Census 1971, 1976, 1981, 1986, 1991.

TABLE A1.4 MAJOR INDUSTRY OF EMPLOYED INDIGENOUS AND OTHER AUSTRALIAN FEMALES, 1971-91
(per cent)

	1971	1976	1981	1986	1991	Change in share 1971-91
<i>Indigenous females</i>						
Agriculture	13.3	5.0	3.4	3.1	2.0	-85.0
Mining	0.5	0.3	0.4	0.4	0.5	0.0
Manufacturing	10.1	10.9	5.5	5.8	4.8	-52.5
Electricity, gas, water	—	0.1	0.2	0.4	0.2	
Construction	0.3	1.0	0.8	1.3	1.1	260.7
Wholesale & retail trade	8.2	12.7	7.6	11.3	11.0	34.1
Transport & storage	0.6	1.3	1.0	1.6	1.1	83.3
Communications	1.0	1.0	1.1	1.4	1.0	0.0
Finance, property etc	2.5	5.1	3.1	5.7	5.2	108.0
Public administration	2.4	7.9	8.2	10.7	11.8	391.7
Community services	42.4	28.7	33.7	43.3	41.2	2.8
Recreation	10.5	7.7	6.2	7.9	7.7	-26.7
Not classified, not stated	8.1	18.2	28.8	7.0	12.3	51.9
Total	100	100	100	100	100	
<i>Other Australians</i>						
Agriculture	4.1	6.3	4.6	4.4	3.2	-22.0
Mining	0.3	0.3	0.3	0.4	0.3	—
Manufacturing	18.9	14.1	12.2	10.3	8.7	-54.0
Electricity, gas, water	0.5	0.4	0.5	0.5	0.4	-20.0
Construction	1.2	1.9	1.9	2.2	1.9	58.3
Wholesale & retail trade	23.5	20.4	19.7	21.0	20.1	-14.5
Transport & storage	2.0	2.0	2.2	2.4	2.4	20.0
Communications	1.5	1.3	1.4	1.4	1.1	-26.7
Finance, property etc	9.6	9.0	10.5	12.4	13.0	35.4
Public administration	4.2	4.3	4.2	4.9	4.8	14.3
Community services	20.5	23.5	25.1	28.2	27.5	34.1
Recreation	9.6	7.7	7.7	8.4	9.1	-5.2
Not classified, not stated	4.1	9.0	9.9	3.6	7.5	82.7
Total	100.0	100.0	100.0	100.0	100.0	
<i>Ratio indigenous / other Australians</i>						
Agriculture	3.24	0.79	0.74	0.70	0.63	
Mining	1.67	1.00	1.33	1.00	1.67	
Manufacturing	0.53	0.77	0.45	0.56	0.55	
Electricity, gas, water	0.00	0.25	0.40	0.80	0.50	
Construction	0.25	0.53	0.42	0.59	0.58	
Wholesale & retail trade	0.35	0.62	0.39	0.54	0.55	
Transport & storage	0.30	0.65	0.45	0.67	0.46	
Communications	0.67	0.77	0.79	1.00	0.91	
Finance, property etc	0.26	0.57	0.30	0.46	0.40	
Public administration	0.57	1.84	1.95	2.18	2.46	
Community services	2.07	1.22	1.34	1.54	1.50	
Recreation	1.09	1.00	0.81	0.94	0.85	
Not classified, not stated	1.98	2.02	2.91	1.94	1.64	
<i>Simple correlation coefficient (r)</i>						
Aboriginal/other Australians	0.63	0.87	0.71	0.85	0.85	0.47

Source: Population Census 1971, 1976, 1981, 1986, 1991.

TABLE A1.5 OCCUPATION OF THE EMPLOYED INDIGENOUS AND OTHER AUSTRALIAN MALES AGED 15-64
YEARS, 1986 AND 1991
(per cent)

	1986	1991	Change in share 1986-91
<i>Indigenous males</i>			
Managers & administrators	4.1	5.7	39.0
Professionals	4.2	5.9	40.5
Para-professionals	5.5	8.1	47.3
Tradespersons	20.1	20.6	2.5
Clerks	6.1	5.6	-8.2
Salespersons, etc.	3.6	4.7	30.6
Plant & machinery operators & drivers	15.9	14.9	-6.3
Labourers	40.5	34.6	-14.6
Total	100.0	100.0	
<i>Other Australians</i>			
Managers & administrators	15.0	16.4	9.3
Professionals	12.1	13.2	9.1
Para-professionals	6.3	6.9	9.5
Tradespersons	23.4	22.4	4.3
Clerks	7.7	6.4	-16.9
Salespersons, etc.	8.3	9.5	14.5
Plant & machinery operators & drivers	11.6	11.1	-4.3
Labourers	15.6	14.0	-10.3
Total	100.0	100.0	
<i>Ratio indigenous / Other Australians</i>			
Managers & administrators	0.27	0.35	
Professionals	0.35	0.45	
Para-professionals	0.87	1.17	
Tradespersons	0.86	0.92	
Clerks	0.79	0.88	
Salespersons, etc.	0.43	0.49	
Plant & machinery operators & drivers	1.37	1.34	
Labourers	2.60	2.47	
Simple correlation coefficient (r) Ab/others	0.52	0.43	0.86

Source: 1986 and 1991 Censuses.

TABLE A1.6. OCCUPATION OF THE EMPLOYED INDIGENOUS AND OTHER AUSTRALIAN FEMALES AGED
15-64 YEARS, 1986 AND 1991
(per cent)

	1986	1991	Change in share 1986-91
<i>Indigenous females</i>			
Managers & administrators	2.7	3.9	44.4
Professionals	7.0	10.8	54.3
Para-professionals	7.7	8.6	11.7
Tradespersons	5.6	5.2	-7.1
Clerks	33.7	27.9	-17.2
Salespersons, etc.	16.9	20.1	18.9
Plant & machinery operators & drivers	2.6	2.3	-11.5
Labourers	23.7	21.1	-11.0
Total	100.0	100.0	
<i>Other Australians</i>			
Managers & administrators	7.6	8.5	11.8
Professionals	12.4	14.0	12.9
Para-professionals	7.2	7.8	8.3
Tradespersons	3.8	3.8	0.0
Clerks	32.8	29.3	-10.7
Salespersons, etc.	19.7	22.1	12.2
Plant & machinery operators & drivers	3.4	2.7	-20.6
Labourers	13.1	11.9	-9.2
Total	100.0	100.0	
<i>Ratio indigenous / Other Australians</i>			
Managers & administrators	0.36	0.46	
Professionals	0.56	0.77	
Para-professionals	1.07	1.10	
Tradespersons	1.47	1.37	
Clerks	1.03	0.95	
Salespersons, etc.	0.86	0.91	
Plant & machinery operators & drivers	0.76	0.85	
Labourers	1.81	1.77	
Simple correlation coefficient (r) Ab/others	0.89	0.90	0.83

Source: 1986 and 1991 Censuses.

CHAPTER 2

THE DETERMINANTS OF INDIGENOUS LABOUR FORCE STATUS

Labour force status, that is whether a person is employed, unemployed or outside the labour force, is an important indicator of economic wellbeing. Without income from employment, individuals become dependent on transfers from other sources, for example within the family or from the state, and it is the high level of unemployment among indigenous people with its associated dependence on income from the Federal government which has been of particular concern to policy makers.

This concern has been addressed in the formulation of the Aboriginal Employment Development Policy (AEDP) in 1987 and restated in the 1994 review of that policy —

The recommendations made in the Review are directed at increasing the quantity and quality of employment outcomes for indigenous people. (ATSIC (1994) p xvi)

In the light of this interest in employment, the purpose of this chapter is to consider the determinants of labour force status for indigenous Australians. A multinomial logit model will be used to consider the question, what are the main factors which determine whether a person is employed full or part-time, unemployed or not in the labour force? (For a full presentation of a formal model of the labour supply decision, see Killingsworth (1983)). Four possible outcomes have been identified; full-time employment (35 or more hours of work per week), part-time employment (1–34 hours a week), unemployment and 'not in the labour force' (NILF).

The determinants of labour force status

There is an extensive literature which aims to explain differences in labour force status and income according to racial group and sex.¹ A framework which is frequently adopted, and will be used here and in the following chapter, is the human capital model. This model treats activities such as education, on-the-job training, migration and health care as forms of investment which raise productivity and therefore earnings. The individual's problem is to maximise lifetime earnings, given the costs and benefits associated with any investment in human capital. In this framework, the lower levels of education and working experience are important determinants of the lower income of employed indigenous people (for fuller treatments of the theory see Becker 1975 and Elliott 1991).

Time spent in education can be seen as an investment in skills which raise the probability of employment and increase income, as more highly educated people are likely to be more productive and therefore have higher earnings. Even if education in itself does not directly raise productivity, where educational qualifications are taken as a signal of competence and motivation to work, it may be worthwhile for individuals to acquire these qualifications as an entry requirement to employment. On-the-job training is one method by which individuals can acquire productivity-enhancing skills outside a formal classroom environment. As it is difficult to find data on the money or time spent in on-the-job

¹ For surveys of this literature see Ehrenberg and Smith (1987), Hammerness and Rees (1993) and Siebert (1985).

training, the extent of this form of investment has been approximated by a measure of working experience (Mincer 1974). The preferred measure of actual time spent in employment is rarely available, and, therefore, a measure of potential experience (actual age less the age on leaving education), is frequently used. The human capital model predicts that most investment in productivity-enhancing skills will be undertaken by young people. Among older workers, income may actually decline with additional years in the workforce, as investment in new skills ceases and existing skills deteriorate and become obsolete. This model will form the basis of the statistical results reported here.

The independent variables chosen for modelling labour force status were determined by economic relevance and availability in the 1991 Census. These variables fell into four broad areas; ethnicity, family characteristics, educational attainment and location of residence. (See Appendix 2A for full details of the variables.)

An important question for this study is whether Aboriginality in itself has an effect on labour force status or whether the lower employment rates of indigenous people merely reflect their smaller stock of labour market skills. Any independent effect of Aboriginality on labour force status may reflect factors on either the supply or demand sides of the labour market. Indigenous people who were identical in every other measured respect to comparable non-indigenous people may choose a different labour force status. Alternatively, factors on the demand-side of the labour market, for example discrimination in employment, may frustrate indigenous people in their attempts to achieve the labour force status which is most common among other Australians with the same set of measured characteristics. The results presented here will not however, enable a distinction between the sources of any 'indigenous effect' on labour force status.

The choice of other variables used in the analysis has taken into account the factors which human capital theory suggests should be important in determining labour force status and the results of earlier studies of indigenous employment and unemployment (see Miller 1987, 1989, 1991, Ross 1991, Jones 1990, 1991, Daly 1993^a and Daly et. al. 1993). These studies have emphasised the role of education, labour force experience and location of residence in explaining indigenous employment and unemployment.

Education has been included in two forms; the age on leaving school and the level of qualification. Additional education is expected to raise the probability of employment (and therefore reduce the probability of being unemployed or not in the labour force). Four educational qualification groups have been distinguished: those who have no post secondary qualification (unqualified); those who held a certificate such as a trade certificate (cert); those who had completed a graduate diploma (dip); and finally, those who have completed a university degree at a bachelor or higher level (degree).

Additional working experience is also predicted to have a positive effect on the probability of employment through most of working life. Age captures not only these effects of labour market experience on labour force status but also broader lifecycle effects. This variable has the further advantage of being truly exogenous, that is determined independently of the things that are being modelled. Following Daly et al (1993), an age squared term was also added to capture non-linearities in the relationship between age and labour force status.

An additional measure of skill which has been included in this analysis is the ability to communicate in English. Other studies (Jones 1990, 1991; Daly 1993, Daly et al 1993) have found that poor English skills reduced the probability of being in employment.

Many studies of the determinants of labour force status and income have included family characteristics as important control variables (Hill 1979). An individual's marital status is likely to effect their range of employment opportunities and their motivation. The effects will differ between the sexes where family responsibilities are allocated according to conventional patterns. It is expected that as the number of dependent children increases, this will have a positive effect on the probability of females being not in the labour force. The predicted sign for males is not so clear. Additional children may encourage greater search effort to find employment or by raising welfare entitlement, may reduce the incentives to find employment.

Location has been shown to be an important determinant of labour force status for indigenous people (Tesfaghiorghis 1991^a, 1991^b, Daly 1993^a, Daly et al 1993, Taylor 1993^b) and is measured here by the section-of-State variable used by the ABS which divides Australia into three categories according to settlement size.

A random sample of 1991 Census data was used for the analysis. The data consisted of 23,477 indigenous and 22,342 non-indigenous people. Indigenous people were therefore over-represented and the sample should not be taken as representative of the Australian population as a whole.

The statistical model

As the dependent variable was not continuous, ordinary linear regression is inappropriate and it was necessary to use a technique appropriate for a dependent variable with only four possible values. Multinomial logit regression was chosen as the four possible outcomes needed to be treated as categorical, rather than ordinal. The inclusion of the not in the labour force category meant that the outcomes could not be ordered by the number of hours worked.

Logistic regression can be best explained in the case where the dependent variable has two possible values. For example:

- Employed
- Not Employed

In this case the following would be modelled:-

$$P = \text{no. of people employed / relevant sub-population}$$

However this lies between 0 and 1 and still not between the required -infinity and +infinity. To overcome this problem, a logit transformation is applied.

$$\text{logit } P = \log (P/(1-P))$$

This is also known as the log odds. Logit P becomes the dependent variable and the modelling performed is known as logistic regression. However, there are four possible values for the dependent variable in this example so the model is extended to multinomial logistic regression. Here a similar proportion is used, that is,

P_i = no. of people in labour force category i / relevant sub-population, where i takes on one of four values:

P_1 = proportion of people not in the labour force

P_2 = proportion of people employed full-time

P_3 = proportion of people employed part-time

P_4 = proportion of people unemployed

The logit transformation becomes:-

$$\text{logit } P_i = \log (P_i/P_4)$$

$$\text{where } P_4 = 1 - (P_1 + P_2 + P_3)$$

The model then becomes:-

$$\text{logit } P_i = b_0 + b_1X_1 + b_2X_2 + \dots + e_i$$

where b_i are the coefficients, X_j the variables and e_i , the error term which approximates a multivariate normal distribution (see Hosmer and Lemeshow (1989) and Agresti (1984) for fuller discussions).

Variables were added to the model sequentially in order of importance (forward model selection) until the addition of further variables did not greatly improve the model. Interactions, when the effect of one variable is different depending on the level of another variable, were also included for the relationships between Aboriginality and education qualification and Aboriginality and location of residence. The estimation was done using the procedure Proc Catmod in the computer package SAS.

The results

The coefficients in logistic regression models measure relative probabilities and as such are difficult to immediately interpret.² However, the regression coefficients can be used to calculate the probabilities of people being in a particular labour force category given their characteristics. The impact on labour force status of changes in the independent variables is presented in Table 2.1 for males and Table 2.2 for females (the regression results are reported in Appendix Tables A2.1 and A2.2).

² The coefficients for a particular labour force category (see Appendix tables A2.1 and A2.2) are a function of the probability of being in that category divided by the probability of being unemployed. The interpretation of coefficients of different variables is described the following (totally synthetic) example:

Suppose, when investigating the effect of having a trade diploma on Labour Force Status, the following coefficients are predicted:

Labour Force Category	Intercept	Trade Diploma
Full-time employment	-0.3	0.7
NILF	0.5	-0.2
Part-time employment	-0.9	0.4

Then, in the absence of a diploma, the model predicts that

$$\log(P_{FT} / P_{U/E}) = -0.3 - 0.7 = -1.0$$

$$\text{ie, } P_{FT} / P_{U/E} = \exp(-1.0) \quad 1$$

$$\text{so, } P_{FT} / P_{U/E}$$

where FT stands for full-time employment and U/E stands for unemployed.

However, if a diploma is present,

$$\log(P_{FT} / P_{U/E}) = -0.3 + 0.7 = 0.4$$

$$\text{ie, } P_{FT} / P_{U/E} = \exp(0.4) \quad 1$$

$$\text{so, } P_{FT} / P_{U/E}$$

In other words, the positive coefficient of having a diploma associated with full-time employment illustrates that having a trade diploma increases the probability of being in a particular labour force category relative to the probability of being unemployed. When there is more than one explanatory variable, and particularly when there are interactions, the situation becomes more complicated, though the same general principle holds.

A control person has been established for each sex with the following characteristics; a non-indigenous person aged 30 years who left school at the age of 15 or 16, with no post secondary qualifications, good English speaking ability, was single with no dependent children, and living in a major urban area. The estimated equation predicted a 0.63 probability of such a male being in full-time employment, 0.21 probability of being in part-time employment, 0.06 probability of being unemployed and 0.10 of being outside the labour force (see Table 2.1). For females with these characteristics there was a lower probability of being in full-time employment or unemployed and a higher probability of being in part-time employment than was predicted for males (see Table 2.2). The remainder of these tables shows the effects of changes in each of the independent variables taken separately on the predicted probability of the control person falling in each of the four categories. The results for males and females will now be considered in turn.

TABLE 2.1. THE IMPACT OF CHANGES IN THE INDEPENDENT VARIABLES ON LABOUR FORCE STATUS, MALES, 1991

	<i>Labour force status</i>			
	<i>Full-time employment</i>	<i>Part-time employment</i>	<i>Unemployed Per cent</i>	<i>Not in labour force</i>
Actual distribution of sample – indigenous	0.34	0.13	0.24	0.29
Actual distribution of sample – non-indig.	0.64	0.10	0.10	0.15
Control man ^a	0.63	0.21	0.06	0.10
Change in probabilities with a change in the independent variables for the control man to the following values, holding everything else constant.				
Indigenous	-0.27	-0.08	0.23	0.11
No schooling	-0.13	0.04	0.00	0.08
Age on leaving school, <15 years	-0.02	-0.01	0.00	0.04
Age on leaving school, 17+ years	0.08	-0.02	-0.03	-0.03
Age on leaving school, 15–16 years, certificate	0.05	-0.01	-0.02	-0.02
Age on leaving school, 17+ years, diploma.	0.12	-0.02	-0.04	-0.06
Age on leaving school, 17+ years, degree	0.13	-0.04	-0.04	-0.05
Bad English	-0.17	0.01	0.01	0.15
Married	0.10	-0.03	-0.03	-0.04
Widowed, sep, divorced	0.02	0.00	-0.01	-0.01
Dependant 1	—	—	—	—
Dependant 2–3	-0.02	0.01	—	—
Dependant 4+	-0.11	0.05	0.02	0.05
Other urban resident	-0.01	0.01	—	—
Rural resident	—	0.01	—	—
Additional effects for indigenous males compared with the control indigenous male				
Control indigenous male (b)	0.36	0.13	0.29	0.21
Age on leaving school, 15–16 years, certificate	-0.02	-0.08	0.20	-0.10
Age on leaving school, 17+ years, diploma.	0.12	-0.02	-0.01	-0.09
Age on leaving school, 17+ years, degree.	0.21	-0.01	-0.13	-0.06
Other urban resident	-0.02	-0.04	0.07	—
Rural resident	-0.07	0.10	-0.08	0.06

(a) The control man was a non-indigenous man aged 30 years who left school at the age of 15 or 16, had no qualifications, good English ability, was single with no dependants and lived in a major urban area. (b) All the same characteristics as the non-indigenous control male except he is indigenous.

A major result is the very large changes in labour force status which is predicted if the control male were indigenous rather than non-indigenous. An indigenous male with all the other characteristics of the control man was much less likely to be in full-time employment than a non-indigenous male; the probability was 0.36 compared with 0.63 for the non-indigenous control man. The probability of being unemployed increased from 0.06 for a non-indigenous male to 0.29 for an indigenous male and he was also more likely to be outside the labour force.

Educational attainment also had a substantial impact on labour force status. Those males who had no schooling or had left school before the age of 15 years were less likely to be in full-time employment and more likely to be outside the labour force than those who had left school aged 15–16 years. Staying at school until the age of 17 or more years increased the probability of being in full-time employment. Males with a post secondary qualification were more likely to be in full-time employment than those without. This effect was particularly pronounced for indigenous males with a university degree; the probability of these males being in full-time employment was 0.21 higher than for an indigenous male with no qualifications. Poor English speaking ability had a strong negative effect on the probability of being in full-time employment and a positive effect on the probability of being outside the labour force compared with the control man.

The largest estimated effect of family characteristics on the labour force status of males was for married compared with single males. It was estimated that married males were more likely to be in full-time employment than single males. The number of dependent children had little effect on labour force status, except for those with four or more dependent children who were predicted to be less likely to be in full-time employment.

Location of residence did not have a large effect on labour force status for non-indigenous males but it was estimated to have a substantial effect for indigenous males. Indigenous males who lived in the other urban centres were more likely to be unemployed than their counterparts in the major urban centres. However, those living in rural areas were almost twice as likely to be in part-time employment and less likely to be unemployed than those in the major urban areas. The most probable explanation of this result is the growth in part-time CDEP employment which has taken place in rural areas. The result suggests that holding everything else constant an indigenous male could increase the probability of being in employment as measured by the census by moving to a rural area.

The effect of Aboriginality on labour force status was similar for males and females. An indigenous female with all the other characteristics of the control woman was less than half as likely to be in full-time employment.

TABLE 2.2. THE IMPACT OF CHANGES IN THE INDEPENDENT VARIABLES ON LABOUR FORCE STATUS, FEMALES, 1991

	<i>Labour force status</i>			<i>Not in labour force</i>
	<i>Full-time employment</i>	<i>Part-time employment</i>	<i>Unemployed Per cent</i>	
Actual distribution of sample – indigenous	0.16	0.13	0.12	0.58
Actual distribution of sample – non-indig.	0.32	0.24	0.06	0.38
Control woman	0.59	0.28	0.02	0.10
Change in probabilities with a change in the independent variables for the control woman to the following values, holding everything else constant.				
Indigenous	-0.34	-0.22	0.39	0.18
No schooling	-0.17	0.05	0.01	0.12
Age on leaving school, <15 years	-0.06	0.02	0.01	0.04
Age on leaving school, 17+ years	0.05	-0.02	0.00	-0.02
Age on leaving school, 15-16 years, certificate	0.05	-0.01	0.00	-0.03
Age on leaving school, 17+ years, diploma.	0.10	-0.02	-0.01	-0.06
Age on leaving school, 17+ years, degree.	0.02	-0.09	-0.01	0.09
Bad English	-0.03	0.02	0.00	0.02
Married	-0.06	0.07	-0.01	—
Widowed, sep, divorced	-0.29	0.34	-0.01	-0.04
Dependant 1	-0.18	0.12	0.00	0.06
Dependant 2-3	-0.26	0.16	0.00	0.11
Dependant 4+	-0.30	0.13	0.00	0.18
Other urban resident	—	-0.01	0.01	0.02
Rural resident	-0.01	-0.06	0.02	0.05
Additional effects for indigenous females compared with the control indigenous female				
Control indigenous female(b)	0.25	0.06	0.41	0.28
Age on leaving school, 15-16 years, certificate	0.20	0.01	-0.08	-0.13
Age on leaving school, 17+ years, diploma.	0.43	0.03	-0.25	-0.20
Age on leaving school, 17+ years, degree.	0.48	0.03	-0.31	-0.19
Other urban resident	0.07	0.06	-0.22	0.09
Rural resident	0.03	0.14	-0.27	0.10

(a) The control woman was a non-indigenous woman aged 30 years who left school at the age of 15 or 16, had no qualifications, good English ability, was single with no dependants and lived in a major urban area. (b) All the same characteristics as the non-indigenous control female except she is indigenous.

She was less likely to be in part-time employment and more likely to be unemployed or not in the labour force.

Higher levels of educational attainment as measured by both age on leaving school and qualifications were associated with a higher probability of being in full-time employment. This effect was particularly pronounced for indigenous females with diplomas and degrees. The probability of being in full-time employment was estimated to be 0.73 for an indigenous female with a degree compared with 0.25 for one without a qualification. Poor English speaking ability had a negative effect on the probability of being in full-time employment for all females.

Family characteristics had different effects on female labour force status than for males. Married and widowed, separated and divorced females were more likely to be in part-time employment than were single females. The presence of dependent children also increased the probability of being in part-time employment or not in the labour force. The more children, the less likely females were to be in full-time employment.

Location of residence was predicted to have a larger effect on the labour force status of non-indigenous females than it had on males. Non-indigenous females living in rural areas were less likely to be in part-time employment and more likely to be not in the labour force than their counterparts living in major urban centres. However, the effect of location of residence was particularly strong for indigenous females. Indigenous females living in other urban centres were less likely to be

unemployed than those living in major urban centres. In common with indigenous males, indigenous females living in rural Australia were more likely to be in part-time employment and less likely to be unemployed than their counterparts in the major urban centres. Once again these differences are probably a result of the operation of the CDEP scheme.

Figures 2.1-2.4 compare in graphical form, the different effects of qualifications and location of residence on the labour force status of Aboriginal people and other Australians. A negative value indicates that the probability of being in the relevant labour force category was less for an Aboriginal person with the characteristic of interest (for example having a university degree) than for a non-Aboriginal person with the same characteristic. A positive value means that the probability of being in the particular labour force category was greater for an Aboriginal person with the characteristic of interest than for non-Aborigines with the same characteristic.

Figures 2.1 and 2.2 present the differences for males and females respectively, in the probability of being in each labour force category according to the level of qualification held. Figure 2.1 shows that the addition of qualification level did not change the general result that Aboriginal males were less likely to be in full-time employment (apparent in the negative values for each qualification level) and more likely to be unemployed or outside the labour force than were non-Aboriginal males (see the positive values for each qualification level). However, the differences between indigenous and non-indigenous males in the predicted probabilities were smaller for those with degrees and larger for those with certificates than for those with no qualifications.

The differences reported in Figure 2.2 for females show that higher educational qualifications had a particularly strong positive effect on the probability of indigenous females being in full-time employment and reduced the probability of them being unemployed or outside the labour force. In particular, indigenous females with degrees had a higher probability of being in full-time employment and a lower probability of being not in the labour force than their non-indigenous counterparts.

Figures 2.3 and 2.4 illustrate the effect of section-of-State of residence on the labour force status of indigenous males and females relative to other Australians. Indigenous people who lived in the other urban section-of-State were relatively worse off in terms of higher unemployment compared to non-indigenous people living in these locations. These results held for both males and females. The only employment category in which a higher probability was predicted for indigenous than non-indigenous people was in part-time employment in rural areas but this difference was very small.

Summary and conclusions

Over the period 1971-91, indigenous people were less likely to be employed and more likely to be unemployed or outside the labour force than were other Australians. The purpose of this chapter has been to examine some of these differences in a formal regression framework.

Perhaps the most striking result is the effect of Aboriginality in itself on labour force status. For both males and females, holding everything else constant, Aboriginality substantially decreased the probability of being in full or part-time employment and increased the probability of being unemployed or not in the labour force. This result could reflect either demand or supply side preferences for employment of indigenous people.

In general, additional education increased the probability of being in employment. For indigenous people, particularly females, a university degree increased the probability of being in full-time employment. The effect of university qualifications was even greater for indigenous compared with non-indigenous females. The results suggest that increasing the educational attainment of indigenous Australians could make an important contribution towards improving their employment status.

Demographic variables such as marital status and the number of dependent children had different effects on the labour force status of males and females. While males who had never been married were less likely to be in full-time employment, females who had never been married were more likely to be in full-time employment. Except for those males with four or more children, the number of dependent children did not greatly influence labour force status but more children were associated with less full-time employment for females.

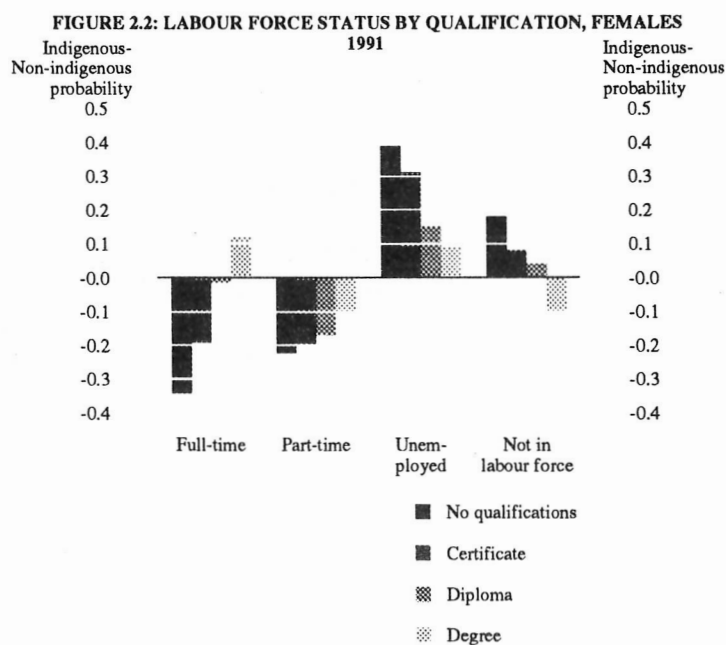
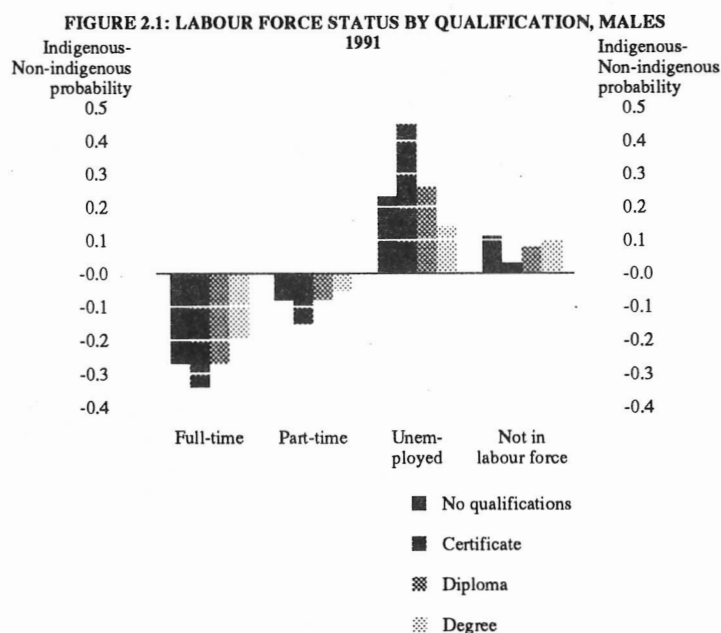
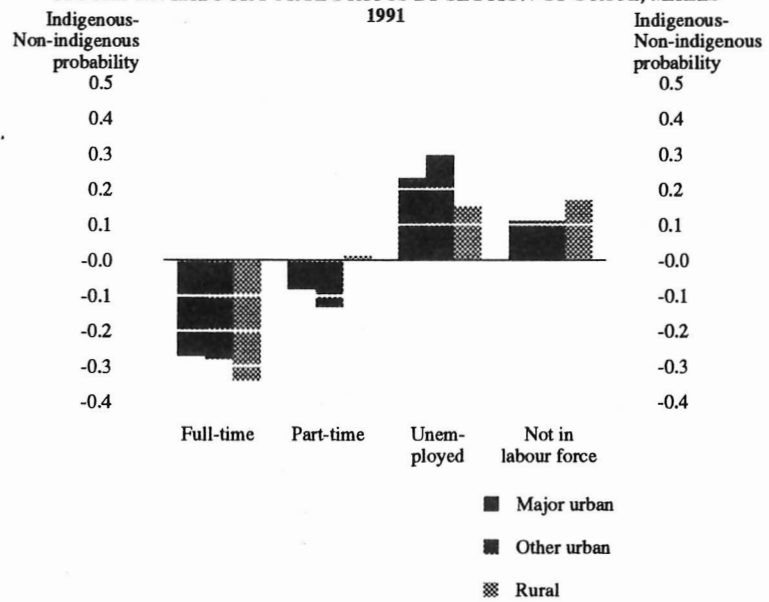
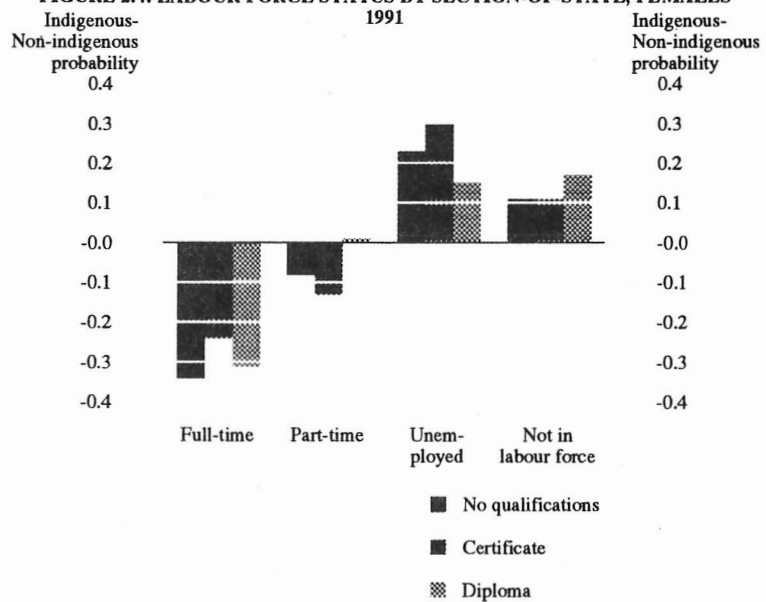


FIGURE 2.3: LABOUR FORCE STATUS BY SECTION-OF-STATE, MALES**FIGURE 2.4: LABOUR FORCE STATUS BY SECTION-OF-STATE, FEMALES**

A third important influence on labour force status for indigenous but less so for non-indigenous Australians, was the location of residence. Both indigenous males and females were more likely to be in part-time employment and less likely to be unemployed if they lived in a rural rather than a major urban area. This result probably reflects the concentration of CDEP employment in rural areas.

As already noted, it was the ABS intention that people working under the CDEP scheme should be classified as employed in the 1991 Census. The usual determinants of labour force status (for example educational attainment and labour force experience) are however, not relevant to inclusion in the scheme, rather Aboriginality is the selection criteria. It might be expected that this would be reflected in the results presented here, that is the expansion of the scheme would reduce the negative effects of Aboriginality on the probability of being in employment. The results suggest that the scale of participation in the CDEP scheme in 1991 was not sufficient to change the overall direction of the effect of Aboriginality on employment status; holding other measured variables constant, Aboriginality continued to have a negative effect on the probability of being in both full and part-time employment. However, in rural Australia where the CDEP scheme has the largest number of participants, the probability of an indigenous person being in part-time employment, holding everything else constant, was slightly higher than for non-indigenous people. It would appear that, at least in rural areas, the CDEP scheme has made some contribution to reducing the negative effect of Aboriginality on the probability of being in employment as defined by the census, although this effect has been on part-time employment rather than full-time employment.

APPENDIX 2A

It was necessary to collapse some of the categories available in the Census to enable the modelling to be carried out within ABS resource constraints. The variables for which this was necessary are indicated here. Details of independent variables used in the logistic regressions:-

ABORIGINAL – Aboriginal and Torres Strait Islander indicator
 – Aboriginal or Torres Strait Islander (ATSI)
 – non-ATSI

AGE – treated as continuous
 (Age ranging from 15 to 64 years)

MARITAL – Marital Status
 – SINGLE
 – MARRIED
 – OTHER (i.e. divorced, separated, widowed)

DEPT – Number of dependent children, this was collapsed for the analysis into

- NONE
- 1
- 2 to 3
- 4 plus

The educational independent variables are:-

QUALIF – Qualifications
 – No qualifications
 – Certificate
 – Diploma
 – Degree

ALS – Age left school, collapsed for the analysis into
 – 1 did not go to school
 – 2 left
 – 3 left 15-16
 – 4 left school at 16

ENGLISH – standard of English
 – GOOD
 – BAD

The geographic independent variables are:-

SECTION – Section-of-State
 – 0 (Major Urban)
 – 1 (Other Urban)
 – 2 (Rural, includes migratory)

TABLE A2.1 LABOUR FORCE STATUS OF MALES AGED 15-64 YEARS, 1991

	<i>Not in the labour force ln (p1/p4)(a)</i>	<i>Full-time employment ln (p2/p4)(a)</i>	<i>Part-time employment ln (p3/p4)(a)</i>
Constant	2.0034 (50.4**)	-0.4819 (3.3)	0.5439 (2.8)
Age	-0.0801 (53.3**)	0.1123 (111.6**)	0.0069 (0.26)
Age squared	0.0015 (111.5**)	-0.0013 (79.1**)	0.0001 (0.13)
Indigenous	-0.4336 (8.1**)	-1.1036 (70.1)	-1.0599 (36.7**)
Age on leaving school			
No schooling	0.2707 (6.5*)	-0.3775 (9.7**)	-0.0089 (0.0)
<15 years	0.0594 (1.3)	-0.1219 (4.7*)	-0.1970 (8.7**)
15-16 years	-0.2685 (34.3**)	-0.0773 (2.6)	-0.1265 (5.0*)
Marital status			
Single	-0.0922 (5.0*)	-0.3293 (77.6**)	-0.2156 (19.0**)
Married	0.1868 (22.0**)	0.5701 (250.4**)	0.3833 (67.5**)
Qualifications			
No qualifications	-0.0857 (1.1)	-0.4352 (42.5**)	-0.3414 (17.5**)
University degree	0.2923 (4.5*)	0.3732 (10.5**)	0.2732 (4.1*)
Diploma	-0.2284 (1.7)	0.0744 (0.3)	0.0866 (0.3)
Section-of-State			
Major urban	0.0120 (0.1)	0.0213 (0.2)	-0.0112 (0.0)
Other urban	-0.0371 (0.3)	-0.0523 (0.9)	-0.0349 (0.3)
Poor English	-0.4042 (40.3**)	0.2309 (10.5**)	-0.0447 (0.3)
Dependent children			
None	0.0098 (0.1)	0.1828 (27.8**)	0.0568 (1.7)
One	-0.0834 (3.1)	0.0673 (2.4)	-0.0561 (1.0)
Two-three	-0.0366 (0.7)	0.0425 (1.1)	0.0275 (0.3)
Indigenous * qualifications			
No qualifications	-0.2253 (1.4)	-0.5087 (9.2**)	-0.4917 (6.6*)
University degree	0.4921 (1.2)	0.5123 (1.5)	0.7203 (2.4)
Diploma	0.2143 (0.4)	0.0686 (0.1)	0.3090 (0.8)
Indigenous * section			
Major urban	-0.7998 (12.6**)	-0.9112 (21.9**)	-1.3095 (25.9**)
Other urban	0.0270 (0.1)	0.2925 (8.5**)	-0.0524 (0.1)
-2 Log likelihood	50395.1		

(a) p1 = the probability of being in full-time employment; p2 = the probability of being in part-time employment; p3 = the probability of being outside the labour force; and p4 = the probability of being unemployed. Chi squared statistics are in brackets. Those indicated by a * are significant at the 5 per cent level and those with ** are significant at the 1 per cent level.

Source: 1991 Census.

TABLE A2.2 LABOUR FORCE STATUS OF FEMALES AGED 15-64 YEARS, 1991

	<i>Not in the labour force ln (p1/p4)(a)</i>	<i>Full-time employment ln (p2/p4)(a)</i>	<i>Part-time employment ln (p3/p4)(a)</i>
Constant	1.6069 (29.7**)	-1.8811 (32.9**)	-1.4951 (19.3**)
Age	-0.0204 (2.4)	0.1885 (155.8**)	0.1431 (83.7**)
Age squared	0.0009 (26.8**)	-0.0022 (114.5**)	-0.0014 (45.6**)
Indigenous	-0.5151 (9.3**)	-1.0460 (33.9**)	-1.2603 (46.2**)
Age on leaving school			
No schooling	0.2937 (4.1*)	-0.5283 (7.4**)	-0.1694 (0.9)
<15 years	0.0689 (0.9)	-0.0791 (0.8)	-0.0229 (0.1)
15-16 years	-0.1798 (9.4**)	0.1583 (4.5*)	0.0291 (0.2)
Marital status			
Single	-0.2379 (30.1**)	-0.1221 (6.5**)	-0.2117 (17.4**)
Married	0.3765 (85.6**)	0.3533 (64.3**)	0.5777 (161.9**)
Qualifications			
No qualifications	0.1319 (2.6)	-0.3840 (23.6**)	-0.2596 (10.0**)
University degree	-0.1945 (2.0)	0.1840 (2.0)	0.0217 (0.0)
Diploma	0.1365 (0.8)	0.3478 (5.7*)	0.3937 (6.9**)
Section-of-State			
Major urban	-0.0497 (0.7)	0.0782 (1.6)	0.0651 (1.0)
Other urban	0.0570 (0.6)	-0.0308 (0.2)	0.0607 (0.6)
Poor English	0.0539 (0.5)	0.2817 (9.3**)	0.4039 (18.7**)
Dependent children			
None	-0.5977 (208.8**)	0.3746 (63.0**)	-0.3303 (47.1**)
One-	0.1054 (4.7*)	0.0443 (0.6)	0.0628 (1.3)
Two-three	0.1888 (17.2**)	-0.1703 (10.0**)	0.1379 (7.1**)
Indigenous * qualifications			
No qualifications	-0.0222 (0.0)	-0.8003 (24.9**)	-0.5854 (12.1**)
University degree	0.5922 (2.2)	0.8619 (5.2*)	0.8653 (4.8*)
Diploma	-0.3538 (1.5)	0.1431 (0.3)	-0.0023 (0.0)
Indigenous*section			
Major urban	-0.7869 (9.7**)	-0.8347 (9.7**)	-1.2878 (21.6**)
Other urban	0.1915 (2.3)	0.3106 (5.4*)	0.1239 (0.8)
-2 Log likelihood	50160.2		

(a) p1 = the probability of being in full-time employment; p2 = the probability of being in part-time employment; p3 = the probability of being outside the labour force; and p4 = the probability of being unemployed. Chi squared statistics are in brackets. Those indicated by a * are significant at the 5 per cent level and those with ** are significant at the 1 per cent level.

Source: 1991 Census.

CHAPTER 3

DETERMINANTS OF EMPLOYMENT INCOME FOR INDIGENOUS AUSTRALIANS

The results of the preceding chapter highlighted the importance of Aboriginality in itself in determining labour force status. This chapter focuses on the relatively affluent group of indigenous Australians who were employed full time and considers the effects of their Aboriginality on their employment income. Although their incomes were high by indigenous standards, the average income of employed indigenous Australians was below that of the rest of the Australian population. In 1991, the median employed (including full-time and part-time) indigenous male had an income of 70 per cent that of an employed non-indigenous male, and, for the median indigenous female, 83 per cent that of an employed non-indigenous female (see Table 1.8).

The human capital model, outlined in the preceding chapter, will form the basis for the statistical analysis reported here. However, even with the same levels of education and working experience, indigenous people may be paid less than their non-indigenous counterparts. In other words, they may not receive the same financial rewards for investment in human capital as non-indigenous people. This may arise through discrimination against indigenous Australians in the labour market so that otherwise identical indigenous people are paid less than non-indigenous people. Alternatively, it may reflect decisions by indigenous Australians not to maximise their money incomes but rather to place greater emphasis on non-pecuniary benefits. An example of this would be a nursing aide who chose to work for a lower salary in a familiar indigenous community rather than seek promotion involving a move to the city.

There are many other reasons why income may differ between individuals, such as inherited abilities, motivation and good luck. Another factor is the nature of the work; and the theory of compensating differentials formally takes this factor into account.¹ According to this theory, workers require additional monetary incentives to take on dangerous or unpleasant work or to move to undesirable locations.

Studies of the income status of employed North American Indians (both Canadian and American) based on the human capital model have found contrasting results. Sandefur and Scott's (1983) study of Native Americans concluded that differences in measured characteristics, that is the endowments of human capital, were the major sources of income differences between Native Americans and Whites. In contrast, Patrinos and Sakellariou's (1992) study of Canadian data found that more than half the income difference was not explained by differences in endowments of human capital. The results presented here will provide an additional observation on the determinants of income status for indigenous people in another part of the world.

¹ The theory was originally expounded by Adam Smith in *The Wealth of Nations*. For a more modern treatment see Rosen (1986). For other surveys of the determinants of pay see Ehrenberg and Smith (1987), Siebert (1985), Elliott (1991) and Hamermesh and Rees (1993). For recent surveys of the discrimination literature see Blau and Ferber (1987) and Gunderson (1989).

The model

The earnings equations to be estimated here include variables suggested by the human capital model and are similar to those used to explain labour force status in Chapter 2. Each equation can be thought of as an 'hedonic price function which reflects the equilibrium of the supply and demand for workers at each level of schooling and experience' (Willis 1986: 529). The earnings function will be estimated in semi-log form following Mincer (1974). The basic equation to be estimated for indigenous and non-indigenous males and females is the following:

$$\text{Gross weekly income} = f(\text{education, experience, family characteristics, location of residence, English-speaking ability, Aboriginality}). \quad (1)$$

A detailed description of the variables is included in Appendix 3A.

Aboriginality has been included here, as a central question is whether employed indigenous Australians have lower average incomes because they have less of the skills valued in the labour market or because of some particular characteristics associated with indigenous people in employment.

Education and experience are included as central variables in the human capital model. Education has been included in two forms: one variable which measures the years spent at primary and secondary school; and a second group of variables relating to educational qualifications. The coefficient on the years-of-schooling variable shows the percentage increase in income with each additional year of primary and secondary schooling. This enables an estimation of the effect of additional schooling on the income of those who did not have any educational qualifications. The four education groups outlined in Chapter 2 have been included to measure the additional effect of a post schooling qualification on income.

Experience in the workforce is predicted to have a positive effect on income. It is measured in two forms, the first being potential experience (current age minus estimated years of full-time education minus 5) and the second an adjusted measure of experience. As already discussed in Chapter 2, a preferred measure of the variable of real interest, investment in on-the-job training, is the time actually spent in employment, but this is unavailable in the census. If actual experience in employment and in on-the-job training is substantially less than an individual's potential experience, the estimated impact of experience on income will be understated. This difference between potential and actual experience is important for particular groups, such as those who characteristically have an intermittent attachment to the labour force. For the purposes of this study, potential experience may be a particularly inappropriate measure of the labour market experience of indigenous people. The unemployment rate is much higher than for the rest of the population and there is case study evidence to suggest that indigenous people are more likely to be employed in casual and seasonal work (Smith 1991). For these reasons potential experience is likely to overestimate the actual labour market experience of these people.

The options for adjusting the census measure of potential experience to take into account differences in individuals' attachment to the labour force are limited. The approach adopted here has been to use census data on the employment/population ratio at each age to create an estimate of adjusted labour market experience. So for example, if half of indigenous males aged 24 years were in employment, indigenous males of this age in

full-time employment were given half a year of adjusted labour force experience. An individual's labour force experience was then calculated as the sum of experience at each age up to their current age with appropriate adjustments for the time spent in schooling. This estimate therefore is an average of employment experience at each age and takes into account both full- and part-time employment. If those in full-time employment have greater attachment to the labour force than the rest of the population, this estimate will understate the true extent of their labour force experience. Measures of adjusted experience have been calculated separately for four groups; each sex of both indigenous and non-indigenous Australians.

Ability to communicate in English has been included as another component of an individual's human capital. As already noted, it has been found to be an important determinant of employment status and income. Jones (1990) found that speaking a language other than English was correlated with lower incomes for indigenous Australians.

Marital status and the number of dependents have been included once again as control variables and are expected to have different effects on employment income for males and females.² Marriage and dependent children are expected to have a negative effect on female incomes where these restrict choice of employment.

Location of residence has been shown to be an important determinant of income from employment for both the indigenous and non-indigenous populations. As in Chapter 2, the section-of-State variable which relates to settlement size has been used here. The coefficient on these locational variables can be seen as measuring the size of the compensating differential required to encourage people to live in particular places. Any difference between the size of the differential for indigenous and non-indigenous people suggests that they value location of residence differently.

The data

The data to be used in this analysis come from a randomly selected sample of indigenous and non-indigenous people of working age, taken from the 1991 Population Census. It consists of 5,621 indigenous Australians and 10,534 non-indigenous Australians working full time, 35 or more hours per week.

The census has a number of shortcomings for the purpose of this analysis. The preferred measure of income from employment is hourly earnings. However, since 1976, the census has not included a question about sources of income. Consequently, there is no direct information on any individual's earnings from employment. Nor did the census seek detailed information on the number of hours worked each week, but it included broad categories of hours worked. This makes it very difficult to estimate hourly income where the categories cover a broad range of hours (for example 1–15 hours of work per week). In an attempt to reduce the problems associated with these two sources of measurement error in the dependent variable, the estimation presented here has been restricted to full-time workers (those working between 35 or more hours per week).

² Other studies which include marital status are Gregory et al. (1989) and Chapman and Mulvey (1986) for Australia and Sandefur and Scott (1983) and Patrinos and Sakellariou (1992) for North America. Hill (1979) presents a survey of American evidence and a discussion of the reasons for including marital status in earnings regressions.

The Income and Housing Survey conducted by the ABS in 1985-86 showed that 85 per cent of the income of those employed full-time came from employment. Thus, the census income figures for this group are probably an adequate indicator of earnings.

TABLE 3.1 MEAN VALUES OF THE VARIABLES USED IN THE INCOME EQUATIONS, 1991

	Males		Females	
	Indigenous	Non-indigenous	Indigenous	Non-indigenous
Income (\$)	371.0	518.0	353.0	427.2
Unqualified	0.79	0.52	0.78	0.62
Certificate	0.18	0.29	0.10	0.12
Diploma	0.02	0.06	0.07	0.12
University graduate	0.01	0.13	0.04	0.14
Years of primary and secondary school	9.34	10.12	9.81	10.34
Potential experience	18.53	22.11	16.60	19.13
Adjusted experience	8.30	16.99	5.02	11.18
Single	0.46	0.28	0.47	0.37
Married	0.45	0.64	0.39	0.51
Widowed, separated divorced	0.09	0.08	0.14	0.12
Number of dependents				
0	0.50	0.54	0.50	0.65
1	0.17	0.17	0.19	0.15
2-3	0.25	0.27	0.25	0.18
4+	0.08	0.03	0.07	0.01
Poor English	0.02	0.02	0.02	0.01
Urban	0.34	0.64	0.41	0.69
Other urban	0.36	0.21	0.36	0.19
Rural	0.31	0.15	0.23	0.12

Source: 1991 Census.

As already noted, the census question relates to current employment status. This means that a certain proportion of those currently in full-time employment may not have been in such employment for the year over which their income has been measured, and that their actual working experience may differ substantially from their potential experience.

Table 3.1 presents the average characteristics of full-time workers in the samples. On average, the indigenous males in the sample had lower levels of education and experience. According to the adjusted measure of experience, indigenous males had less than half the labour force experience of non-indigenous males. Indigenous males were less likely to be legally married and had more dependent children than non-indigenous males. They were more likely to live outside the major urban centres; two-thirds of indigenous males lived in other urban or rural locations compared with 36 per cent of non-indigenous males.

Many of these differences applied also to females. Indigenous females had less education in terms of qualifications than non-indigenous females although the difference in the number of years of primary and secondary schooling was smaller for females than for males. Indigenous females had less potential labour market experience than non-indigenous females and given their much lower rate of employment, had less than half the adjusted labour market experience of non-indigenous females. They were less likely to be legally married and had more dependent children. Indigenous females, as with indigenous males, worked in different locations to their non-indigenous counterparts. Over half of the indigenous females working full time lived outside major urban areas compared with 31 per cent of non-indigenous females.

The regression results for equation (1) are reported in Table 3.2 for indigenous and non-indigenous males and females. The constant term in these equations relates to an unqualified urban dweller who is single, has

no dependants, no qualifications or years of schooling, no labour market experience, is fluent in English and is not an indigenous Australian. The results for males and females will be considered in turn and will focus on the preferred equations; (2) for males and (4) for females. The preferred equations were determined by deleting all the indigenous interaction terms which were highly insignificant, those with 't' statistics of less than one. In these cases there was no evidence of a statistically significant different relationship between income and the independent variable for indigenous and non-indigenous Australians. For example, the results do not suggest that the effect of marriage on income differs for indigenous compared with non-indigenous males.

The estimated equations show some fairly standard results. Income increased with the level of education. Male university graduates earned 49 per cent more than their unqualified counterparts and female graduates 42 per cent more. Additional labour market experience also raised income for the first 33 years of potential experience for males and 31 years for females. Both males and females who lived outside the major urban centres had lower incomes, other things being equal. Married males had higher incomes than their single counterparts but a statistically significant effect was not found for females. There was a negative effect on income for both males and females of dependent children, perhaps because the number of dependent children is associated with other socio-economic characteristics. Poor English language skills also had a depressed effect on income.

The results reported in Table 3.2 column 2 for males show a significant negative effect of Aboriginality on the income of males working full time. According to these estimates, holding everything else constant, indigenous males could expect to have incomes which were 9 per cent below those of their non-indigenous counterparts. This difference may reflect discrimination against indigenous males, or their choice of employment with smaller monetary compensation offset by non-pecuniary benefits (for example, working in an indigenous organisation). It does, however, suggest that indigenous males suffer from an income disadvantage associated with their race. A similar result of a 'Native American' effect on income was found by Sandefur and Scott (1983).

TABLE 3.2 INCOME OF INDIGENOUS AND NON-INDIGENOUS MALES AND FEMALES WORKING FULL-TIME, 1991

	Males		Females	
	(1)	(2)	(3)	(4)
Constant(a)	5.3082 (122.9**)	5.3276 (156.6**)	5.3359 (90.7**)	5.3294 (114.3**)
Certificate	0.0964 (7.9**)	0.0964 (7.9**)	0.0562 (2.7*)	0.0540 (3.1**)
Diploma	0.3165 (13.4**)	0.3182 (13.6**)	0.2836 (13.0**)	0.2845 (15.5**)
Degree	0.4868 (27.9**)	0.4868 (29.5**)	0.4178 (20.1**)	0.4176 (20.8**)
Years of primary and secondary schooling	0.0316 (8.74**)	0.0303 (10.9**)	0.0314 (6.2**)	0.0311 (7.9**)
Experience	0.0431 (21.5**)	0.0424 (27.9**)	0.0378 (15.5**)	0.0386 (20.2**)
Experience squared	-0.0007 (-19.3**)	-0.0007 (-24.3**)	-0.0007 (-14.2**)	-0.0007 (-18.0**)
Married	0.1100 (6.6**)	0.1089 (8.7**)	0.0206 (1.1)	0.0178 (1.2)
Widowed, separated, divorced	0.0654 (2.8**)	0.0634 (3.5*)	0.0681 (2.7*)	0.0616 (2.6**)
Number of dependants				
1 dependant	-0.0352 (-2.3**)	-0.0345 (-2.8**)	-0.0731 (-3.9**)	-0.0725 (-3.9**)
2-3 dependants	-0.0021 (-0.1)	-0.0003 (-0.02)	-0.0972 (-5.2**)	-0.0933 (-6.4*)
4+ dependants	-0.0842 (-2.6**)	-0.0976 (-4.55**)	-0.1946 (-3.3**)	-0.1941 (-3.3**)
Other urban	-0.0477 (-3.6**)	-0.0498 (-4.7**)	-0.0954 (-5.6**)	-0.0953 (-5.6**)
Rural	-0.1825 (-12.0**)	-0.1832 (-12.2**)	-0.1997 (-9.5**)	-0.2013 (-9.6**)
Poor English	-0.2022 (-4.7)	-0.2047 (-4.7**)	-0.2670 (-4.7**)	-0.2697 (-4.8**)
Indigenous Australian	-0.0426 (-0.6)	-0.0902 (-6.6**)	-0.0650 (-0.7)	-0.0355 (-1.9)
Indigenous interaction terms				
Ind*certificate	0.0521 (2.3*)	0.0508 (2.3**)	-0.0081 (-0.2)	
Ind*diploma	-0.0682 (-1.2)	-0.0727 (-1.3)	0.0016 (0.04)	
Ind*degree	-0.0397 (-0.6)		0.0775 (1.6)	0.0796 (1.67)
Ind*schooling	-0.0028 (-0.5)		0.0005 (0.1)	
Ind*experience	-0.0019 (-0.6)		0.0016 (0.4)	
Ind*experience squared	0.00004 (0.7)		0.0000 (0.0)	
Ind*married	-0.0025 (-0.1)		-0.0053 (0.2)	
Ind*widowed etc.	-0.0055 (-0.1)		-0.0447 (-1.1)	-0.0264 (-0.8)

For footnotes see end of table.

TABLE 3.2 INCOME OF INDIGENOUS AND NON-INDIGENOUS MALES AND FEMALES WORKING FULL-TIME
1991 — *continued*

	Males		Females	
	(1)	(2)	(3)	(4)
Number of dependants				
Ind*dependant 1	0.0013 (0.1)		0.0384 (1.3)	0.0349 (1.2)
Ind*dependants 2-3	-0.0307 (-1.3)	-0.0343 (-1.7)	0.0117 (0.4)	
Ind*dependant 4	-0.0227 (-0.5)		0.0699 (1.0)	0.0657 (1.0)
Ind*other urban	-0.0058 (-0.3)		0.0401 (1.5)	0.0417 (1.6)
Ind*rural	-0.1160 (-4.8**)	-0.1121 (-5.1**)	-0.1463 (-4.5**)	-0.1423 (-4.5**)
Ind*lang	-0.0848 (-1.1)	-0.0790 (-1.1)	-0.1257 (-1.4)	-0.1202 (-1.3)
R2	0.34	0.34	0.34	0.34
Mean of dependent variable	6.1360	6.1360	5.9893	5.9893
F test of joint significance of indigenous variables		29.5**		6.3**

(a) The constant term measures the natural logarithm of income for an unqualified urban dweller who is single, has no dependants, no qualifications or years of schooling, no labour market experience, is fluent in English and is not an indigenous Australian.

't' statistics are in brackets. Significant test statistics at the 5 per cent level are indicated by * and those at the 1 per cent level by **.

Source: 1991 Census.

There was only evidence of statistically significant differences between indigenous and other Australians in the returns to human capital characteristics for a restricted number of these characteristics. The income of indigenous males who held a certificate qualification was 15 per cent higher than an unqualified indigenous male compared with the gap of 10 per cent for non-indigenous males. Indigenous males however, received a smaller return for a diploma than non-indigenous males. Living in a rural location had a particularly strong negative effect on indigenous incomes. Where non-indigenous males who lived in a rural area received 18 per cent less income, other things being equal, than their counterparts in the major urban areas. Indigenous males were estimated to receive 29 per cent less income.

The measured effect of Aboriginality on the incomes of females was smaller than for males. Indigenous women were estimated to receive 4 per cent less income than non-indigenous women, holding everything else constant. There was some evidence of a higher return to university degrees for indigenous females compared with non-indigenous females and living in a rural location had a particularly strong negative effect on income.

Additional regression results are reported in Appendix Table 3A.1 using the alternative adjusted experience measure. These results show higher returns to experience for both males and females than the results reported here, with little change in the coefficients on the education variables. The inclusion of the adjusted experience measure reduced the negative effect of Aboriginality on male incomes and the coefficient on this variable became highly insignificant for females. This suggests that part of the negative effect of Aboriginality reported in the results in Table 3.2 may be due to the difficulties in measuring true labour force experience.

The sources of income differences

This section considers the sources of income differences between indigenous and non-indigenous Australians for each sex in terms of endowments of human capital attributes and the rewards to these attributes. The question of the determinants of income differences between indigenous males and females will also be considered.

Any difference in the income of people of different race can be considered in three parts: one which is attributable to differences in human capital endowments, for example education and experience; one which is attributable to differences in the rewards to these endowments; and one which is attributable to the error component in the regression (Oaxaca 1973; Blinder 1973).

$$y_{ni} - y_i = (y_{ni} - X_{ni}b_{ni}) - (y_i - X_i b_i) + (X_{ni}b_{ni} - X_i b_i) \quad (2)$$

$$\text{where } (X_{ni}b_{ni} - X_i b_i) = (X_{ni} - X_i)b_i + X_{ni}(b_{ni} - b_i) \quad (3)$$

Where y is actual weekly income, X is a vector of endowments, b the estimated regression coefficients. The subscripts i and ni refer to the indigenous and non-indigenous populations. The final term in equation 2 can be broken down into that part attributable to differences in endowments (the first term in equation 3) and that part attributable to coefficient differences (the second term in equation 3). This latter term will include any biases introduced by such things as the omission of relevant variables or measurement errors in the included variables, as well as differences between indigenous and non-indigenous Australians in the 'true' coefficients. The decomposition can be best thought of as an accounting exercise.

The results of this exercise are presented in Table 3.3. For each racial group and sex, the regression coefficients reported in Table 3.2 can be used to calculate predicted income for the average in the sample, using both the indigenous and non-indigenous coefficients as weights. The results show that for men, about 70 per cent of the estimated difference in predicted earnings can be accounted for by the lower level of human capital endowments of indigenous men compared with non-indigenous men. The lower levels of education and the greater proportion of indigenous men living outside of the major urban areas were important sources of the endowment differences. Differences in the rewards to these endowments also played a part in explaining their lower income but accounted for less than 10 per cent of the income gap. Similar exercises, which try to explain the difference between the employment income of Black and White Americans, have found that between 50 and 80 per cent of the difference can be accounted for by differences in the measured endowments (Ehrenberg and Smith 1987: 537). In the case of Native Americans, Sandefur and Scott (1983) found that most of the earnings difference could be attributed to endowment differences, while Patrinos and Sakellariou (1992) found that only 41 per cent of the income difference between Canadian Natives and other Canadians could be attributed to endowment differences.

TABLE 3.3 ESTIMATED SOURCES OF INCOME DIFFERENCES BETWEEN INDIGENOUS AND NON-INDIGENOUS MALES AND FEMALES, 1991

	<i>Males</i> (1)	<i>Females</i> (2)
Predicted income (\$)		
Indigenous	411	387
Non-indigenous	580	480
Income gap to explain (per cent)(a)	29.0	19.0
Using indigenous weights		
Attributed to endowments (per cent)	21.0	16.8
Percentage of difference	72.4	88.4
Attributed to coefficients (per cent)	8.0	2.2
Percentage of difference	27.6	11.6
Using non-indigenous weights		
Attributed to endowments (per cent)	19.5	15.6
Percentage of difference	67.2	82.1
Attributed to coefficients (per cent)	9.5	3.4
Percentage of difference	32.8	17.9

(a) The calculation is based on Table 2, equations 2 and 4.

Source: 1991 Census.

The results presented in Table 3.3 column 2 for females, show that the gap between the income of indigenous and non-indigenous females working full-time was smaller than for males. Endowment differences accounted for over 80 per cent of the gap between the income of indigenous and non-indigenous females. Location of residence outside of the major urban areas, their larger number of dependent children and their lower educational attainment were factors which reduced the relative income of indigenous females. The results of a decomposition using the adjusted experience measure also show that endowment differences were the major source of difference between the income of indigenous and non-indigenous Australians although these were not as important as in the results reported here (see Appendix Table 3A.2).

It is tempting at first glance to attribute any differences in the rewards to endowments to discrimination against indigenous people, and this may indeed be a part of the explanation of the lower returns which indigenous people receive for their human capital attributes. In addition, the results presented here suggest that a major source of income difference is Aboriginality per se which affects all indigenous people. There have been few systematic attempts to collect evidence of discrimination against indigenous Australian people although it is frequently assumed to exist. One study (Larsen et al. 1977) found evidence of discrimination against indigenous people in Townsville in the areas of employment, housing and hotel access.³

There are, however, alternative explanations of the lower returns to human capital amongst indigenous Australians. Indigenous people may make employment choices which do not maximise their monetary income. Those living in rural areas and unwilling to migrate to more lucrative employment may find themselves restricted in their choice of employment to jobs which do not use their skills fully. Even if such work existed, they may prefer to take casual work which gives them greater flexibility in their use of time.

³ Riach and Rich (1987) conducted a similar test for sexual discrimination among a group of Melbourne employers and concluded that women did face discrimination.

A third possibility is that the coefficient differences arise because of measurement problems. The explanatory variables included are the best available estimates of a range of underlying factors which are expected to have an important influence on income. As already discussed, there are problems associated with the measurement of labour market experience for a group with intermittent labour supply. Another example is the years-of-schooling variable. American evidence suggests that, on average, Black Americans have in the past received lower quality schooling than White Americans. Several studies have attributed part of the relative growth in black incomes in the 1960s and 1970s to raising the quality of schooling (Smith and Ward 1989; Card and Krueger 1992). The results presented here do not support the hypothesis that the schooling received by indigenous Australians has been of inferior quality. However the use of the crude count of the number of years of schooling may hide important differences. For example, there is evidence of lower literacy and numeracy levels among the current generation of indigenous school children (Department of Employment, Education and Training (DEET) 1994).

It is perhaps safer to think of the coefficient differences as a 'measure of our ignorance', rather than at this stage to attribute the differences to any particular source. However, the strong negative effect of location of residence outside major urban areas on indigenous incomes raises the issue of the importance of locational factors for any policies designed to increase indigenous employment and incomes. The result suggests either that indigenous Australians face particularly strong discrimination in the rural areas or that indigenous people living in these rural areas are willing to sacrifice a large amount of income in order to stay there rather than migrate to employment in a large city. As Altman (1988), Taylor (1988), and Altman and Smith (1990) have shown, there are, however, no easy solutions to the problems of generating employment in remote areas.

TABLE 3.4 ESTIMATED SOURCES OF INCOME DIFFERENCES BETWEEN INDIGENOUS MALES AND FEMALES, 1991

	<i>Male coefficients</i>	<i>Female coefficients</i>
Income gap to explain(a)	6.0	
Attributed to endowments	-2.0	-4.0
Percentage of difference	-33.0	-66.0
Attributed to coefficients	8.0	10.0
Percentage of difference	133.0	166.0

(a) The calculation is based on equation 3.

Source: 1991 Census.

Finally, in Table 3.4, the incomes of indigenous men and women working full time are compared. The average indigenous male had an income 6 per cent higher than the average indigenous female. The decomposition of this gap into endowment and coefficient differences is presented, using both sets of coefficient weights. The results show that endowment differences accounted for none of the income differences; indigenous females had greater human capital endowments than indigenous males. Coefficient differences were the source of lower incomes for working indigenous women. Among these, the strong negative effect of rural residence and the different effects on income of family characteristics for indigenous females were most important. Family characteristics also had different effects on the income of non-indigenous men and women. This more general result probably reflects the division of labour within the family.

Conclusion

Although indigenous people in full-time employment have lower incomes, on average, than non-indigenous Australians in full-time employment, they are a privileged group in terms of income, when compared with indigenous people who are not in employment. This chapter has used the framework of human capital theory to decompose the differences in income for indigenous and non-indigenous men and women in full-time work into that part which can be accounted for by differences in the labour market characteristics of indigenous people and unexplained differences in the rewards to these characteristics.

The results show that the main source of lower incomes for indigenous males compared with their non-indigenous counterparts was their lower level of human capital endowments rather than the rewards they received for these endowments. An even stronger result held for females. These results emphasising the role of human capital differences in determining income differences, are similar to those reported by Sandefur and Scott (1983) for Native American males and in contrast to Canadian results which emphasise the role of unexplained factors (Patrinos and Sakellariou 1992).

In comparing across the sexes, however, the estimates presented here show that the differences in rewards for endowments more than accounted for the income gap. Given their endowments of human capital, indigenous females could be expected to earn more than indigenous males while the actual outcome was that they earned less. The result of large differences in the rewards for human capital characteristics across the sexes has been found in other studies of the pay gap between males and females (Gregory et al. 1989; Chapman and Mulvey 1986; Gunderson 1989). In fact, it has been argued in the United States context, that racial income differentials are more susceptible to change than is the income ratio between males and females (Fuchs 1988).

Human capital endowments and the rewards for them also influence the probability of being in employment. The earlier results of chapter 2 showed that indigenous Australians are less likely to be in full-time employment than non-indigenous Australians. It is possible that the effects of Aboriginality on labour market outcomes are more apparent at the point of entry to employment rather than among those already in full-time employment. The evidence presented here does not support the hypothesis that indigenous people working full time face a high level of discrimination in the earnings they receive. Perhaps this reflects the Australian system of wage determination which has limited the extent to which the earnings of individuals can fall below the minimums set under the award system.

APPENDIX 3A

Definition of variables*Education*

- (i) Years of schooling: years of primary and secondary schooling were calculated by age left school minus 5 with a maximum value of 12.
- (ii) Unqualified: a dummy variable taking the value of one for those who had no post-secondary qualification.
- (iii) Cert: a dummy variable taking the value of one for those with a post secondary certificate, for example a trade certificate.
- (iv) Diploma: a dummy variable taking the value of one for those with an undergraduate or associate diploma.
- (v) University graduate: a dummy variable taking the value of one for those who had completed an undergraduate or postgraduate degree.

Experience

- (i) Potential experience: current age minus the estimated years in education minus 5.
- (ii) Adjusted experience: measured by calculating the employment/population ratio at each age between 15 and 64 years and assuming that this represented the extent of labour force experience for people of this age during that year. Adjusted experience was then the sum of this measure of experience at each age up to the current age with an appropriate deduction for years of schooling.

Family characteristics

- (i) Married: a dummy variable taking the value of one for those who were legally married.
- (ii) Widowed, separated and divorced: a dummy variable taking the value of one for those who were widowed, separated or divorced.
- (iii) Single: a dummy variable taking the value of one for those who had never been married.
- (iv) Number of dependent children: three dummy variables, 1 for those with one dependant child, 2-3 for those with 2-3 dependent children, 4+ for those with 4 or more dependent children.

Location

- (i) Major urban: a dummy variable taking the value of one for those who lived in major urban settlements (of more than 100,000 inhabitants).
- (ii) Other urban: a dummy variable taking the value of one for those who lived in other urban settlements (of between 1,000 and 99,999 inhabitants).
- (iii) Rural: a dummy variable taking the value of one for those who lived in rural areas (of less than 1,000 inhabitants). This category also included migratory people.

Language

- (i) Poor English: a dummy variable taking the value of one for those who registered an inability to communicate easily in English.

TABLE A1 INCOME OF INDIGENOUS AND NON-INDIGENOUS MALES AND FEMALES WORKING FULL-TIME, 1991

	Males		Females	
	(1)	(2)	(3)	(4)
Constant(a)	5.4071 (134.2**)	5.4267 (167.7**)	5.3516 (94.8**)	5.3749 (119.7**)
Certificate	0.0980 (8.0**)	0.0968 (8.0**)	0.0528 (2.5*)	0.0512 (3.0**)
Diploma	0.3150 (13.3**)	0.3155 (13.4**)	0.2769 (12.7**)	0.2792 (15.3**)
Degree	0.4837 (27.9**)	0.4825 (29.2**)	0.4089 (19.7**)	0.4121 (20.6**)
Years of primary and secondary schooling	0.0294 (8.5**)	0.0277 (10.4**)	0.0316 (6.4**)	0.0293 (7.8**)
Adjusted experience	0.0533 (21.4**)	0.0536 (22.8**)	0.0668 (16.6**)	0.0665 (17.5**)
Adjusted experience squared	-0.0013 (-19.2**)	-0.0013 (-20.1**)	-0.0023 (-15.3**)	-0.0023 (-15.8**)
Married	0.1114 (6.7**)	0.1117 (8.9**)	0.0128 (0.7)	0.0140 (1.0)
Widowed, separated, divorced	0.0640 (2.7**)	0.0621 (3.4**)	0.0590 (2.3*)	0.0470 (2.4**)
Number of dependants				
1 dependant	-0.0388 (-2.5*)	-0.0387 (-3.1**)	-0.0703 (-3.7**)	-0.0597 (-4.0**)
2-3 dependants	-0.0110 (-0.8)	-0.0121 (-0.9)	-0.1026 (-5.5**)	-0.1008 (-6.9*)
4+ dependants	-0.0926 (-2.8**)	-0.1071 (-5.0**)	-0.2021 (-3.5**)	-0.1558 (-4.9**)
Other urban	-0.0471 (-3.5**)	-0.0497 (-4.7**)	-0.0936 (-5.5**)	-0.0949 (-5.6**)
Rural	-0.1822 (-11.9**)	-0.1835 (-12.2**)	-0.1999 (-9.5**)	-0.2019 (-9.7**)
Poor English	-0.2070 (-4.8**)	-0.2332 (-6.6**)	-0.2750 (-4.9**)	-0.2831 (-5.1**)
Indigenous Australian	-0.0283 (-0.5)	-0.0762 (-3.1**)	0.0269 (0.3)	-0.0229 (-0.8)
Indigenous interactions				
Ind*cert	0.0492 (2.1*)	0.0512 (2.3**)	-0.0061 (-0.2)	
Ind*dip	-0.0701 (-1.2)	-0.0727 (-1.3)	0.0060 (0.1)	
Ind*graduates	-0.0467 (-0.7)		0.0836 (1.7)	0.0734 (1.5)
Ind*schooling	-0.0043 (-0.8)		-0.0050 (-0.6)	
Ind*experience	0.0272 (5.1)	0.0268 (5.3**)	0.0544 (5.3**)	0.0559 (6.1**)
Ind*exsq	-0.0018 (-7.9)	-0.0017 (-8.1**)	-0.0053 (-7.5**)	-0.0054 (-8.0**)
Ind*married	0.0009 (0.0)	-0.0044 (0.2)		
Ind*widowed etc.	-0.0040 (-0.1)		-0.0306 (-0.8)	
Number of dependants				
Ind*dependant 1	0.0014 (0.1)		0.0289 (0.9)	
Ind*dependants 2-3	-0.0302 (-1.3)	-0.0283 (-1.3)	0.0075 (0.3)	
Ind*dependant 4	-0.0240 (-0.6)		0.0679 (1.0)	
Ind*other urban	-0.0061 (-0.3)		0.0396 (1.5)	0.0435 (1.6)
Ind*rural	-0.1149 (-4.8**)	-0.1121 (-5.1**)	-0.1419 (-4.4**)	-0.1360 (-4.3**)
Ind*lang	-0.0733 (-1.0)		-0.1261 (-1.4)	-0.1059 (-1.2)
R2	0.34	0.34	0.34	0.34
F test of joint significance of indigenous variables		26.5**		18.2**

(a) The constant term measures the natural logarithm of income for an unqualified urban dweller who is single, has no dependants, no qualifications or years of schooling, no labour market experience, is fluent in English and is not an indigenous Australian.

't' statistics are in brackets. Significant test statistics at the 5 per cent level are indicated by * and those at the 1 per cent level by **.

Source: 1991 Census.

**TABLE A2 ESTIMATED SOURCES OF INCOME DIFFERENCES BETWEEN
INDIGENOUS AND NON-INDIGENOUS MALES AND FEMALES (ADJUSTED
EXPERIENCE), 1991**

	<i>Males</i>	<i>Females</i>
Predicted income (\$)		
Indigenous	485	389
Non-indigenous	586	478
Income gap to explain (per cent) ^a	17.0	19.0
Using indigenous weights		
Attributed to endowments (per cent)	55.3	12.6
Percentage of difference	325.3	66.3
Attributed to coefficients (per cent)	-38.3	6.4
Percentage of difference	-225.3	33.7
Using non-indigenous weights		
Attributed to endowments (per cent)	29.2	26.8
Percentage of difference	171.8	141.0
Attributed to coefficients (per cent)	-12.2	7.8
Percentage of difference	-71.8	-41.0

(a) The calculation is based on Appendix Table A1 equations 2 and 4.

Source: 1991 Census.

CHAPTER 4

EDUCATION AND EMPLOYMENT FOR YOUNG INDIGENOUS AUSTRALIANS

The position of young Australians in the labour market has been of concern to policy makers over the past two decades as unemployment rates among young people have remained high and well above the average for the total labour force. The indigenous population is, on average, younger than the total Australian population. In 1991, 35.3 per cent of the indigenous population aged 15 years and over, was in the age category 15–24 years, compared with 20 per cent of the Australian population in general. The position of this group is therefore of particular concern as they may be doubly disadvantaged; once in so far as Aboriginality is a disadvantage in the labour market and secondly, for being young.

A related issue of concern is the involvement of indigenous youth in the criminal justice system. The Royal Commission into Aboriginal Deaths in Custody (RCIADIC) and other studies (for example, Gale, Bailey-Harris and Wundersitz 1990) show that young indigenous people have been over-represented in the juvenile justice system throughout Australia. The RCIADIC noted:

Not only do they come into the system to a disproportionate extent, the penalties which they receive are demonstrably more severe than those of equivalent non-Aboriginal juveniles and they have an accelerated progression through the various stages of the juvenile justice system until the point of detention in a juvenile institution (Commonwealth of Australia 1991^a: 254–5).

The importance of the restricted educational and employment opportunities available to indigenous youth in producing these results is strongly argued in the Royal Commission's Reports (see especially, chapters 14, 16, 17, 30 and 33) (Commonwealth of Australia 1991). Low educational attainment and poor labour market outcomes may have major implications for the course of an individual's life. This conclusion has also been emphasised in other recent official studies of the educational and employment status of indigenous youth (see ATSIC 1994, and DEET 1994).

Specific government policies such as Priority One, the Social Strategy for Young Australians and the Youth Training Initiative under Working Nation have aimed to reduce the high levels of unemployment among youth in general by easing the transition from school to work. Schemes such as AUSTUDY and ABSTUDY have the explicit aim of encouraging young people to stay in education for longer periods based on the assumption, for which there is some empirical support, that the more educated are more likely to find work (Miller and Volker 1987; Daly 1993^a).¹ This chapter documents the labour market status and educational

¹ AUSTUDY was introduced in 1987 to provide income support for people over the age of 16 years wishing to continue full-time secondary and tertiary studies. The benefit depends on parental income and assets except where the student is classed as independent and their own income and assets are tested. ABSTUDY was introduced with similar aims to AUSTUDY, 'To encourage and assist Aborigines and Torres Strait Islanders to take full advantage of the educational opportunities available to all Australians' (Department of Employment, Education and Training 1991: 88). It has a secondary and tertiary component and provides additional assistance to cover educational expenses beyond direct income support. Some ABSTUDY benefits are available earlier than AUSTUDY benefits; full-time secondary students and those still at primary school and aged 14 years are entitled to ABSTUDY (Schooling).

attainment of young indigenous people as recorded in the 1991 Census, and compares them with other Australian youth. A summary of census evidence on the changes that have taken place between 1986 and 1991 is also included.

The period 1986–91 saw important policy changes with potential implications for indigenous youth; the introduction of the AEDP which aims to promote indigenous employment and the Aboriginal Education Policy (AEP) which focuses on indigenous education. As already noted, the AEDP has the goals of increasing indigenous employment rates to the level of the rest of the Australian population and of reducing indigenous welfare dependence (Australian Government 1987; Altman 1991). The AEP, established in response to the Report of the Aboriginal Education Policy Task Force (Department of Employment, Education and Training 1988), is an agreement between the Commonwealth and State and Territory Governments directed towards raising the educational status of Australia's indigenous people. Along with the AEP, the Aboriginal Languages Initiative Program (ALIP) was established in 1992 to encourage the use of traditional Aboriginal languages.

This chapter begins by presenting data on educational attainment and then considers the position of young people in the labour market. Two broad age categories of youth have been identified for discussion; those aged 15–19 years and those aged 20–24 years. These age categories cover periods of important life cycle changes. The first age category includes, for most people, the completion of secondary schooling and the transition to higher education or into the labour market. The second category covers the beginnings of adult employment for those who left school at an earlier age and the transition from education into the labour market for those undertaking higher education. Where relevant, more detailed age breakdowns will be presented for indigenous people.

The educational levels of young indigenous Australians

Table 4.1 compares the age at which indigenous and other Australian youth had left school in 1991. The lower levels of educational attainment of indigenous people documented elsewhere (Teschfaghiorghis and Altman 1991) are also in evidence here for young indigenous Australians. Among 15–19 year olds (columns 1 and 2), a smaller proportion of indigenous males and females were still at school than among the rest of the Australian population; about 33 per cent compared with about 50 per cent. This difference was partially offset by the higher proportion of indigenous males and females who had left school aged 14 years or younger, prior to the compulsory school leaving age; about 10 per cent of indigenous people aged 15–19 years had done so compared with 1.4 per cent of non-indigenous people in this age category.

Columns 3 and 4 of Table 4.1 relate to 20–24 year olds, almost all of whom had completed their secondary schooling. Most indigenous males and females of this age had left school when they were aged 15 or 16 years, although about 10 per cent had left school at a younger age. A much smaller proportion (2 per cent) of non-indigenous people in this age category left school before they were 15 years and a larger proportion, continued to attend school until they were 17 or 18 years of age. Among the wider Australian population, 47.8 per cent of males and 51.4 per cent of females left school when they were 17 or 18 years old, compared with 26.2 per cent of indigenous males and 30.3 per cent of indigenous females who left school at these ages.

TABLE 4.1 AGE ON LEAVING SCHOOL FOR INDIGENOUS AND NON-INDIGENOUS YOUTH BY SEX AND AGE CATEGORY, 1991

Age on leaving school	15-19 years			20-24 years		
	Indigenous (1)	Non- indigenous (2)	Ratio (1)/(2) (3)	Indigenous (4)	Non- indigenous (5)	Ratio (4)/(5) (6)
	— per cent —			— per cent —		
<i>Males</i>						
14 or younger	11.2	1.6	7.0	11.8	2.2	5.4
15	22.3	10.0	2.2	27.6	15.5	1.8
16	18.8	15.2	1.2	29.5	25.6	1.2
17	10.0	14.5	0.7	17.4	29.3	0.6
18	3.5	7.4	0.5	8.8	18.5	0.5
19 and older	0.6	1.3	0.5	3.7	8.6	0.4
Still at school	32.6	49.7	0.7	—	0.1	n.a.
No schooling	1.0	0.2	5.0	1.2	0.3	4.0
Total (number)	13,750	623,000		12,061	606,900	
<i>Females</i>						
14 or younger	8.5	1.1	7.7	9.0	1.9	4.7
15	20.5	8.9	2.3	25.4	14.3	1.8
16	19.7	12.7	1.6	30.9	23.6	1.3
17	12.4	17.6	0.7	21.3	33.0	0.6
18	4.0	8.4	0.5	9.0	18.4	0.5
19 and older	0.7	1.1	0.6	3.5	8.6	0.4
Still at school	33.5	50.0	0.7	—	—	n.a.
No schooling	0.8	0.2	4.0	1.0	0.3	3.3
Total (number)	13,487	600,300		13,196	592,100	
<i>Persons</i>						
14 or younger	9.9	1.4	7.1	10.4	2.0	5.2
15	21.4	9.5	2.3	26.4	14.9	1.8
16	19.2	14.0	1.4	30.2	24.6	1.2
17	11.2	16.0	0.7	19.4	31.1	0.6
18	3.7	7.9	0.5	8.9	18.4	0.5
19 and older	0.6	1.2	0.5	3.6	8.6	0.4
Still at school	33.0	49.9	0.7	—	—	n.a.
No schooling	0.9	0.2	4.5	1.1	0.3	3.7
Total (number)	27,237	1,223,300		25,257	1,199,000	

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

There is some evidence that these figures may underestimate the difference in educational attainment between the two groups. Age on leaving school is only a rough indicator of the time actually spent in school and the available evidence suggests that indigenous children have relatively high truancy rates (Commonwealth of Australia 1991: 364-8; House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs 1992: 67). Other evidence shows that particularly in rural and remote locations, the literacy and numeracy achievements of indigenous Australian children fall behind those of other Australian children and that indigenous children are less likely to be in school for all the compulsory years (DEET 1994).

Table 4.2 presents in more detail the proportion of indigenous youth, at each age, who were still attending school. Between the ages of 15 and 17 years, a higher percentage of indigenous females were at school than indigenous males. There was a rapid decline in the proportion of each age group who were attending school. School attendance fell from 75 per cent of 15 year olds to 9.6 per cent of 18 year olds.

There is evidence to suggest that coming from a home where an Aboriginal language is spoken creates difficulties in being accommodated by the mainstream education system. However, this group was a minority of young Aboriginal and Torres Strait Islander people; 17 per cent of indigenous people aged 15-24 years stated that the language spoken at home was an Aboriginal language rather than English. However, the

percentage of Aboriginal language speakers who remained at school at almost every age was lower than among the indigenous population in general. Even amongst Aboriginal language speakers, the proportion who had not attended school at all was small, but it was higher than the indigenous population in general. Whether these lower levels of education represent differences in access to education or perceptions about the relevance and benefits of education is a topic for further research.²

Tables 4.1 and 4.2 relate to attendance in secondary schools, but Table 4.3 presents data on attendance by young people at any educational institution. The table shows that among indigenous youth, a much smaller percentage of each age group was in education than non-indigenous Australians; 43 per cent of indigenous people aged 15–19 years were attending some form of educational institution compared with 70 per cent of non-indigenous people. The proportion of indigenous males and females aged 20–24 years who were still studying was about a third of that of their counterparts in the rest of the Australian population.

TABLE 4.2 THE PERCENTAGE OF INDIGENOUS AUSTRALIANS STILL AT SCHOOL OR WHO HAD NEVER ATTENDED SCHOOL BY SEX AND AGE, 1991

	Current age (years)									
	15	16	17	18	19	20	21	22	23	24
<i>Males</i>										
Still at school	73.2	50.5	28.1	10.0	2.9	—	—	—	—	—
Had not attended school	0.9	0.9	1.1	0.8	1.2	1.4	0.7	1.4	1.3	1.4
Total	2,677	2,736	2,752	2,836	2,749	2,791	2,551	2,269	2,262	2,188
Percentage indigenous language speakers ^a										
Still at school	62.6	40.5	16.5	4.3	4.1	—	—	—	—	—
Had not attended school	2.3	2.1	3.3	1.6	3.0	3.2	2.0	2.3	3.0	2.8
Total	398	439	461	494	462	503	443	394	397	423
<i>Females</i>										
Still at school	76.8	52.6	30.9	9.2	2.3	—	—	—	—	—
Had not attended school	0.8	0.8	0.8	0.5	0.9	1.0	0.9	0.8	0.8	1.3
Total (number)	2,516	2,705	2,719	2,791	2,756	2,911	2,744	2,610	2,485	2,446
Percentage indigenous language speakers ^a										
Still at school	66.5	43.1	23.4	9.7	3.2	—	—	—	—	—
Had not attended school	2.3	1.5	2.2	1.6	2.9	2.7	2.2	2.7	2.3	3.3
Total (number)	391	473	401	434	476	590	453	452	428	394
<i>Persons</i>										
Still at school	75.0	51.6	29.5	9.6	2.6	—	—	—	—	—
Had not attended school	0.9	0.8	1.0	0.7	1.1	1.2	0.8	1.0	1.0	1.4
Total (number)	5,193	5,441	5,471	5,627	5,505	5,702	5,295	4,879	4,747	4,634
Percentage indigenous language speakers ^a										
Still at school	64.5	41.9	19.6	6.9	3.6	—	—	—	—	—
Had not attended school	2.3	1.8	2.6	1.6	3.1	2.9	2.1	2.5	2.7	3.1
Total (number)	789	912	868	928	938	1093	896	846	825	817

(a) The percentage of indigenous Australian people who stated that they spoke an Aboriginal language rather than English at home. This group accounted for 17 per cent of 15–24 year old indigenous people.

Source: 1991 Census, full Aboriginal sub-file.

² See Keefe (1992) for a discussion of the relevance of standard educational curricula to Aboriginal people.

TABLE 4.3 THE SHARE OF EACH AGE GROUP ATTENDING EDUCATIONAL INSTITUTIONS BY AGE AND SEX, 1991

Age	15-19 years			20-24 years		
	Indigenous (1)	Non- indigenous (2)	Ratio (1)/(2) (3)	Indigenous (4)	Non- indigenous (5)	Ratio (4)/(5) (6)
	— per cent —			— per cent —		
<i>Males</i>						
Type of educational institution						
Secondary (government)	27.1	33.3	0.81	—	—	n.a.
Secondary (non-government)	4.8	15.4	0.31	—	—	n.a.
TAFE	6.7	11.0	0.61	4.8	8.6	0.56
University	1.9	8.7	0.22	2.8	14.1	0.20
Other	1.5	1.4	1.07	0.8	1.8	0.44
Percentage age group attending an educational institution(a)	42.0	69.8	0.60	8.4	24.5	0.34
Total in age group	13,017	621,400		12,373	626,500	
<i>Females</i>						
Type of educational institution						
Secondary (government)	28.4	33.4	0.85	—	—	n.a.
Secondary (non-government)	4.8	15.5	0.31	—	—	n.a.
TAFE	6.0	7.2	0.83	4.0	6.1	0.66
University	3.1	12.3	0.25	4.0	15.3	0.26
Other	1.2	1.8	0.67	0.8	2.0	0.40
Percentage age group attending an educational institution(a)	43.5	70.2	0.62	8.8	23.4	0.38
Total in age group	12,844	419,100		13,533	610,300	
<i>Persons</i>						
Type of educational institution						
Secondary (government)	27.7	33.3	0.83	—	—	n.a.
Secondary (non-government)	4.8	15.4	0.31	—	—	n.a.
TAFE	6.4	9.1	0.70	4.4	7.4	0.59
University	2.5	10.5	0.24	3.4	14.7	0.23
Other	1.3	1.6	0.81	0.8	1.9	0.42
Percentage age group attending an educational institution(a)	42.7	69.9	0.61	8.6	24.0	0.36
Total in age group	25,861	1,219,300		25,906	1,236,800	

(a) Excludes those who did not state their institution of attendance.

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Indigenous youth aged 15-19 years who were attending an educational institution were more likely to be in secondary schools than at a post-secondary institution. The percentage of the age group attending an educational institution did not vary greatly by sex, but it is interesting to note the slightly larger proportion of females than males attending Colleges of Advanced Education (CAE)/university (CAEs are now universities). This result was also in evidence for non-indigenous Australians aged 15-19 years.

Technical and Further Education (TAFE) attendance accounted for the largest proportion of indigenous people aged 20-24 years who were still studying. Over half the indigenous males and females attending an educational institution were at TAFE colleges. These colleges were less important among other Australians in this age group and university was a more important category. Fifteen per cent of non-indigenous Australians aged 20-24 years were attending university in 1991 compared with only 3.4 per cent of indigenous people in this age group.

There is some evidence to suggest that combining education with employment has a positive effect on the duration of the first post-school job (McRae 1992). According to the 1991 Census, indigenous youth were, however, less likely to combine education and employment than were non-indigenous youth. Fourteen per cent of indigenous males and females aged 15-24 years combined education with some form of employment. This compared with 33 per cent of non-indigenous males

and 35 per cent of non-indigenous females who combined the two activities. Among those at secondary school, 4 per cent of indigenous males and 7 per cent of indigenous females worked while 13 per cent of non-indigenous males and 22 per cent of non-indigenous females combined secondary school attendance with a job. Only 24 per cent of indigenous Australians attending TAFE were employed, compared with 66 per cent of non-indigenous Australians. University education was less likely to be combined with a job than TAFE courses, although 23 per cent of indigenous and 43 per cent of non-indigenous university students worked.

The importance of TAFE as an educational institution is reflected in the types of qualifications held by 20–24 year olds reported in Table 4.4. This group has been selected for this comparison as a larger proportion of the 15–19 year olds were yet to complete their education. The most frequently reported qualifications for males were at the certificate level. Indigenous males were, however, less likely to hold these qualifications than were males in general. Twenty-three per cent of non-indigenous males aged 20–24 years held certificates compared with 11 per cent of indigenous males. There was also a substantial difference between the two groups of males in the proportion holding university degrees. While 6.3 per cent of non-indigenous males in this age group held university degrees, only 0.4 per cent of indigenous males did. The proportion of indigenous males without any educational qualification was correspondingly larger, 88.5 per cent compared with 69.1 per cent.

TABLE 4.4 LEVEL OF QUALIFICATION FOR THOSE AGED 20-24 YEARS BY SEX, 1991

	Males			Females			Persons		
	Indi- genous (1)	Non-indi- genous (2)	Ratio (1)/(2) (3)	Indi- genous (4)	Non-indi- genous (5)	Ratio (4)/(5) (6)	Indi- genous (7)	Non-indi- genous (8)	Ratio (7)/(8) (9)
	— per cent —			— per cent —			— per cent —		
<i>Qualification</i>									
University degree	0.4	6.3	0.06	0.8	8.9	0.09	0.6	7.6	0.08
Undergraduate diploma	0.4	1.3	0.31	1.2	4.8	0.25	0.8	3.0	0.27
Certificate(a)	10.7	23.2	0.46	6.2	12.8	0.48	8.4	18.2	0.46
No qualification	88.5	69.1	1.28	91.7	73.4	1.25	90.2	71.2	1.27
Total (numbers)	11,686	604,000		12,675	569,900		56,313	1,173,900	

(a) Includes associate diploma, skilled vocational, basic vocational and level of attainment inadequately described.

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

There were gender differences in the types of qualifications held, but in common with indigenous males, indigenous females were less likely to hold a qualification than non-indigenous females. Ninety-two per cent of indigenous females held no recognised qualification compared with 73 per cent of the non-indigenous female population. Certificates accounted for a smaller proportion of qualifications held by females than by males. Although indigenous females fell well behind their non-indigenous counterparts in terms of university qualifications, twice the proportion of young indigenous females held these qualifications than indigenous males.

Labour force status

The transition of young people from education to participation in the labour force is apparent in the data presented in Table 4.5. The proportion of the 20–24 year olds who were outside the labour force was smaller for each sex and racial group than among 15–19 year olds. The broad picture is one of lower rates of employment amongst indigenous people, higher rates of unemployment and a larger group of people outside the labour market than amongst non-indigenous people. Among the wider Australian population aged 15–24 years, most people who were not in the labour

force were studying; 91.7 per cent of males and 75.9 per cent of females. There was, however, a much larger group of indigenous people for whom the census provides little information as they were neither in the labour force nor attending an educational institution. Forty per cent of indigenous males and 60 per cent of indigenous females aged 15–24 years who were classified as 'not in the labour force', were not attending an educational institution. This lack of information creates a substantial gap in our knowledge of the activities of a quarter of young indigenous people.

TABLE 4.5 LABOUR FORCE STATUS OF YOUNG INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS BY SEX, 1991

Age	Labour force status(a)						Not in labour force (7)	Total (number)
	Full-time employment(b)	Part-time employment(c)	Total employment(d)	Full-time unemployment(e)	Part-time unemployment(f)	Total labour force		
	(1)	(2)	(3)	(4)	(5)	(6 = 3+4+5)		
—per cent—								
Males — Indigenous								
15–19	14.1	10.2	26.9	18.4	3.4	48.7	51.3	13,440
20–24	28.6	13.9	45.8	27.2	3.6	76.7	23.3	11,966
Total	21.0	12.0	35.8	22.6	3.5	61.9	38.1	25,406
Males — Non-indigenous								
15–19	22.0	13.8	38.7	8.8	2.5	50.0	50.0	641,300
20–24	54.4	12.5	70.5	15.8	2.0	88.3	11.7	636,100
Total	38.1	13.1	54.6	12.3	2.2	69.1	30.9	1,277,400
Females — Indigenous								
15–19	8.7	9.5	20.2	13.7	4.1	38.1	61.9	13,108
20–24	17.3	11.7	31.5	12.0	4.9	48.4	51.6	12,798
Total	13.0	10.6	25.8	12.8	4.5	43.2	56.8	25,906
Females — Non-indigenous								
15–19	16.2	20.9	39.7	7.3	3.7	50.7	49.3	617,600
20–24	44.4	18.5	65.8	9.2	2.7	77.7	22.3	613,000
Total	30.2	19.7	52.7	8.2	3.2	64.2	35.8	1,230,600
Persons — Indigenous								
15–19	11.4	9.9	23.6	16.1	3.8	43.5	56.5	26,548
20–24	22.8	12.8	38.4	19.4	4.3	62.1	37.9	24,764
Total	16.9	11.3	30.8	17.7	4.0	52.5	47.5	51,312
Persons — Non-indigenous								
15–19	19.2	17.3	39.2	8.1	3.1	50.4	49.6	1,258,900
20–24	49.5	15.4	68.2	12.5	2.4	83.1	16.9	1,249,100
Total	34.2	16.4	53.7	10.3	2.7	66.7	33.3	2,508,000

(a) Excludes those who did not state their labour force status. (b) 35+ hours worked per week. (c) Less than 35 hours worked per week. (d) Includes those who stated that they were employed but did not state their hours of work. (e) Includes those who were actively looking for full-time employment. (f) Includes those who were actively looking for part-time employment.

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

While 57 per cent of indigenous males and females aged 15–19 years considered themselves to be outside the labour force about 50 per cent of non-indigenous males and females were classified to this group. The 'not in the labour force' category substantially declined in importance among 20–24 year olds with the exception of indigenous females. Only 11.7 per cent of non-indigenous males aged 20–24 years were outside the labour force. The proportion of indigenous males and non-indigenous females in this category was close to 22 per cent, but over half the indigenous females remained outside the labour force.

In each age category for both sexes, the proportion in employment was much higher for non-indigenous Australians than it was for indigenous Australians (see figures 4.1–4.3). There were also important differences in the proportion who were unemployed and looking for either full-time or part-time work. Unemployment among indigenous males was almost twice

FIGURE 4.1: THE RATIO OF THE SHARE OF INDIGENOUS TO NON-INDIGENOUS MALES IN EACH LABOUR FORCE CATEGORY, 1991

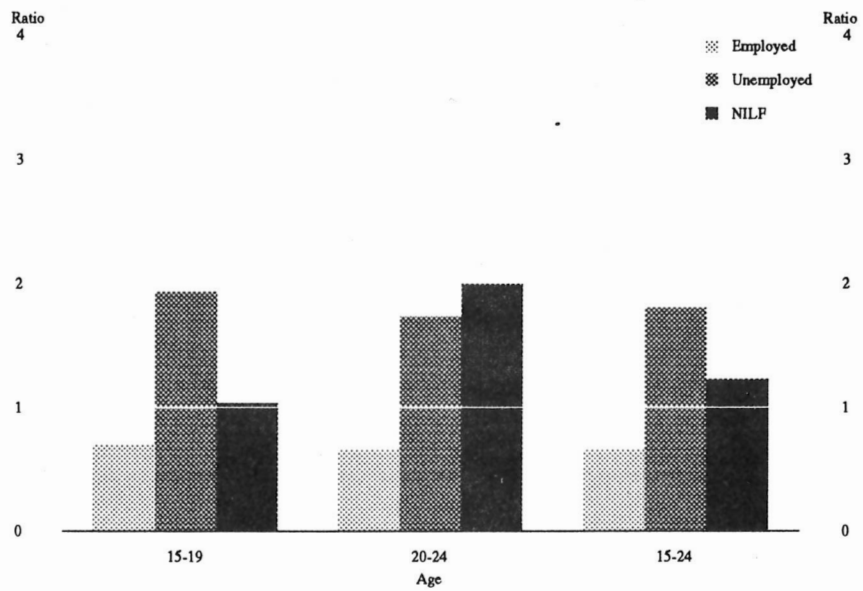


FIGURE 4.2: THE RATIO OF THE SHARE OF INDIGENOUS TO NON-INDIGENOUS FEMALES IN EACH LABOUR FORCE CATEGORY, 1991

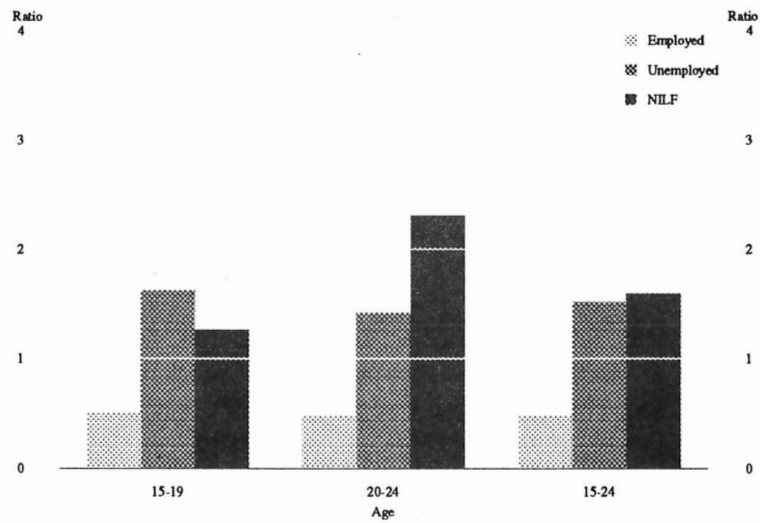
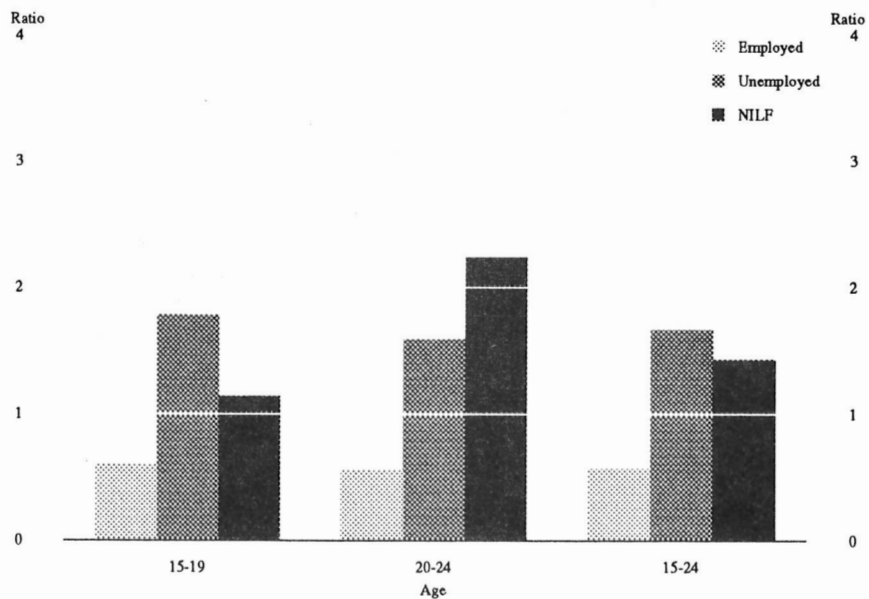


FIGURE 4.3: THE RATIO OF THE SHARE OF INDIGENOUS TO NON-INDIGENOUS PERSONS IN EACH LABOUR FORCE CATEGORY, 1991



that of non-indigenous males (figure 4.1). A quarter of young indigenous males aged 15–24 years were unemployed, compared with 14.5 per cent of non-indigenous males. The differences, while remaining large, were smaller for females than for males (figure 4.2). Seventeen per cent of indigenous females aged 15–24 years were unemployed compared with 11 per cent of non-indigenous females. It is interesting to note the larger proportion of both indigenous males and females who were looking for part-time work.

The causes of the higher rate of indigenous youth unemployment have been analysed using data taken from both the census and the Australian Longitudinal Survey (ALS) sponsored by DEET. Miller (1989, 1991) investigated the influence of Aboriginality on the probability of a young individual being unemployed. In the context of a formal model of the determinants of unemployment, he controlled for factors such as education levels, marital status and number of children, location of residence, age, and where relevant, the employment status of a spouse, to see if there was an independent influence of Aboriginality on the probability of an individual being unemployed. He concluded that, holding all these other factors constant, the unemployment rate of Aboriginal youth is predicted to be about two-and-one-half times greater than that of other groups. This standardised unemployment rate differential is one of the most pronounced in the youth labour market (Miller 1989: 12).

The difference in the unemployment rate could be explained only partially by differences in measured characteristics such as education levels and age. The major part of the differences in unemployment probabilities remained unexplained and could be attributed to either cultural differences in labour supply behaviour or differences in the demand for indigenous labour arising, perhaps, from discrimination. Miller's results therefore support the hypothesis presented in chapter 2, that there are important differences in the determinants of employment status for indigenous and other Australians which go beyond differences in the standard measured attributes.

Other studies of indigenous labour market participation (Ross 1991; Daly 1993^a) have emphasised place of residence as an important factor in determining labour market outcomes. These studies show that the size of the settlement in which the individual resided appears to be a more important determinant of labour force status for indigenous people than for non-indigenous people. This result applied to young people (see Table 4.6). There was little difference in the proportion of non-indigenous males in employment in the three settlement categories identified; major urban centres, other urban and rural. However, among young indigenous males, the employment/population ratio was highest in the rural category and lowest in other urban areas. The census recorded the highest unemployment rates for indigenous males in the 'other urban' category. Twenty-six per cent of 15–19 year old males and 40 per cent of 20–24 year old males living in these towns were unemployed, compared with 25 and 34 per cent of each age category in the major urban areas and 14 and 17 per cent in rural areas. The differences probably reflect the concentration of CDEP communities in the rural areas (see Chapter 1).

TABLE 4.6 LABOUR FORCE STATUS OF INDIGENOUS AND NON-INDIGENOUS YOUTH BY SECTION-OF-STATE, 1991

Section-of-State	Indigenous			Non-indigenous		
	Major urban	Other urban	Rural	Major urban	Other urban	Rural
<i>Males</i>						
15-19 years age group in each section-of-State (per cent)	27.8	39.3	32.9	63.2	22.8	33.4
Labour force status						
Employed	26.4	21.6	33.5	37.5	40.0	42.0
Unemployed	24.9	26.0	14.3	10.9	13.4	9.8
NILF(a)	48.8	52.3	52.2	51.6	46.6	48.2
Total	3,959	5,591	4,693	408,200	146,300	90,700
20-24 years age group in each section-of-State (per cent)	28.7	37.9	33.4	68.9	19.6	11.5
Labour force status						
Employed	47.1	39.2	52.1	70.5	68.7	73.3
Unemployed	34.1	40.3	17.4	17.1	21.1	17.1
NILF(a)	18.8	20.4	30.4	12.4	10.2	9.6
Total	3,669	4,851	4,281	441,000	124,900	73,800
<i>Females</i>						
15-19 years age group in each section-of-State (per cent)	29.0	41.2	29.8	65.0	22.6	12.4
Labour force status						
Employed	22.9	17.5	21.4	41.2	38.7	33.6
Unemployed	20.1	20.7	11.7	10.4	12.8	11.0
NILF(a)	57.0	61.8	66.8	48.4	48.5	55.4
Total	4,006	5,692	41,211	403,700	140,200	76,600
20-24 years age group in each section-of-State (per cent)	29.7	40.3	29.9	69.8	20.7	9.5
Labour force status						
Employed	39.2	25.6	31.9	67.6	63.5	58.1
Unemployed	18.2	20.2	11.1	11.5	12.4	13.3
NILFa	42.7	54.2	57.1	20.9	24.2	28.5
Total	4,061	5,505	4,087	431,000	128,400	60,200
<i>Persons</i>						
15-19 years age group in each section-of-State (per cent)	28.4	40.2	31.4	64.1	22.7	13.2
Labour force status						
Employed	24.6	19.5	27.9	39.4	39.4	38.1
Unemployed	22.5	23.3	13.1	10.6	13.1	10.4
NILF(a)	52.9	57.1	59.0	50.0	47.6	51.5
Total	7,965	11,283	8,814	811,900	286,500	167,400
20-24 years age group in each section-of-State (per cent)	29.2	39.1	31.6	69.3	20.1	10.5
Labour force status						
Employed	42.9	32.0	42.2	69.1	66.1	66.5
Unemployed	25.7	29.6	14.3	14.3	16.7	15.4
NILF(a)	31.3	38.4	43.4	16.6	17.2	18.0
Total	7,730	10,356	8,368	872,000	253,300	134,000

(a) NILF — not in the labour force.

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Non-indigenous females were less likely to be in employment, and more likely to be outside the labour force, if they lived in a rural rather than an urban area. Among indigenous females this tendency was more pronounced. As for males, the measured rate of unemployment was lowest in the rural category. About 11 per cent of young indigenous women were classified as unemployed in the rural areas, which is well below the unemployment/population rate in urban areas. This was similar

to the proportion of non-indigenous women in these age groups who were unemployed.

Tables 4.7 to 4.9 describe the activities of employed youth in more detail. Table 4.7 focuses on occupational distribution. Among both indigenous and non-indigenous 15–19 year old males, employment was heavily concentrated in two broad occupational categories, tradespersons and labourers. These two categories accounted for 75.5 per cent of indigenous employment and 65 per cent of the employment of non-indigenous males in this age group. An interesting difference between the two groups relates to the proportion employed as salespersons; 6 per cent of indigenous 15–19 year old males were employed as salespersons compared with 18.4 per cent of other Australian males in this age category.³

TABLE 4.7 OCCUPATION OF EMPLOYED INDIGENOUS AND NON-INDIGENOUS YOUTH, 1991

Age	15–19 years			20–24 years		
	Indigenous	Non-indigenous	Ratio	Indigenous	Non-indigenous	Ratio
	(1)	(2)	(1)/(2)	(4)	(5)	(4)/(5)
	— per cent —			— per cent —		
<i>Males</i>						
Managers and administrators	2.7	3.3	0.82	2.9	5.9	0.49
Professionals	1.6	1.5	1.01	4.4	8.3	0.53
Para-professionals	5.6	2.3	2.43	7.0	6.4	1.09
Tradespersons	29.5	36.5	0.81	25.4	31.4	0.81
Clerks	3.6	5.5	0.65	7.2	8.4	0.86
Salespersons, etc.	6.3	18.4	0.34	5.6	12.7	0.44
Plant and machinery operators and drivers	4.7	4.1	1.10	10.1	9.0	1.12
Labourers	46.0	28.5	1.61	37.4	18.0	2.08
Total (numbers)	3,213	226,500		5,112	421,300	
<i>Females</i>						
Managers and administrators	0.9	1.1	0.82	2.1	3.2	0.66
Professionals	3.5	1.4	2.40	8.4	11.9	0.71
Para-professionals	3.1	1.5	2.07	6.8	7.1	0.96
Tradespersons	8.1	6.1	1.33	5.4	4.9	1.10
Clerks	27.0	22.4	1.21	36.9	33.6	1.10
Salespersons, etc.	35.5	55.1	0.64	22.8	29.5	0.77
Plant and machinery operators and drivers	1.7	0.9	1.89	2.0	2.0	1.00
Labourers	20.2	11.5	1.76	15.7	7.7	2.04
Total (numbers)	2,352	226,100		3,789	381,900	
<i>Persons</i>						
Managers and administrators	1.9	2.2	0.86	2.5	4.6	0.54
Professionals	2.4	1.4	1.71	6.1	10.0	0.61
Para-professionals	4.6	1.9	2.42	6.9	6.7	1.03
Tradespersons	20.4	21.3	0.96	16.9	18.8	0.90
Clerks	13.5	13.9	0.97	19.9	20.4	0.98
Salespersons, etc.	18.7	36.7	0.51	12.9	20.7	0.62
Plant and machinery operators and drivers	3.4	2.5	1.36	6.7	5.7	1.18
Labourers	35.1	20.0	1.76	28.1	13.1	2.15
Total (numbers)	5,565	452,600		8,901	803,200	

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

³ This result could be interpreted as providing some superficial evidence of consumer discrimination against Aboriginal people. Becker (1957: 57) hypothesised that 'a consumer's evaluation of a retail store may be based not only on the prices, speed of service, and reliability but also on the sex, race, religion, and personality of the sales personnel'. Where consumers discriminated against a particular racial group, that group would be less likely to be found in direct contact with customers.

The 20–24 year age group of males was spread more widely across the broad occupational categories, but labouring remained the most frequent occupation for indigenous males. Indigenous males aged 20–24 years were concentrated among the lower skilled occupations. Once again, indigenous males were under-represented as salespersons compared with other Australian males.

Trade occupations were far less important for females than they were for males. Among those females aged 15–19 years, 62.5 per cent of indigenous and 77.5 per cent of non-indigenous Australians were in the two occupational categories of clerks and salespersons. Sales occupations were once again less important for indigenous females than for non-indigenous females. The proportion of indigenous females occupied as labourers was about twice as large as among non-indigenous females of this age. This may reflect the classification of CDEP scheme workers to this category.

The proportion of females who were classified as clerks actually increased among the 20–24 year olds and salespersons declined in significance. There was a larger share working in professional and para-professional occupations. The proportion of indigenous females employed as labourers remained at about twice that of other Australian females.

Table 4.8 presents data on the distribution of youth employment by broad industry group. There were substantial differences between the industry distribution of employment when comparing 15–19 year old indigenous and non-indigenous Australian males. More than 50 per cent of the latter were employed in two industries: manufacturing, and wholesale and retail trade. In contrast, indigenous males were spread over a wider range of industries. Wholesale and retail trade, community services, public administration and manufacturing were the major industries of indigenous male employment. The relatively small proportion of indigenous males occupied as salespersons (see Table 4.7) was reflected in the smaller proportion of indigenous males working in wholesale and retail trade. This difference is significant as the wholesale and retail sector is typically the major employer of young males.⁴ In common with findings for the whole of the indigenous population, a much larger proportion of 15–19 year old indigenous males were employed in community services and public administration than were males in the rest of the population.

These differences were also apparent in the industry distribution of 20–24 year old males although retail and wholesale trade had ceased to dominate their employment so dramatically. The three largest industry employers of non-indigenous males aged 20–24 years were wholesale and retail trade, manufacturing and finance, property and related services. The major employers of indigenous males were community services, public administration and the wholesale and retail trade.

Indigenous females also showed a different employment pattern to their counterparts in the wider population. Community services and public administration were much more important as employers of indigenous females than of other females. This was especially the case among 15–19 year old females. While over half of non-indigenous females of the

⁴ See for example, Daly (1990) who compares the distribution of the employment of 16–19 year old males by industry in Australia, Great Britain and the United States of America. In each of these countries in 1981, wholesale and retail trade was the largest industry employer of young male labour, accounting for at least one-quarter of total employment.

same age were employed in the wholesale and retail trade, a smaller 30 per cent of indigenous females worked in this industry. Another industry where indigenous females were relatively under-represented was in the area of finance, property and business services.

TABLE 4.8 INDUSTRY OF EMPLOYMENT FOR INDIGENOUS AND NON-INDIGENOUS YOUTH, 1991

Age	15-19 years			20-24 years		
	Indigenous (1)	Non- indigenous (2)	Ratio (1)/(2) (3)	Indigenous (4)	Non- indigenous (5)	Ratio 4)/(5) (6)
	— per cent —			— per cent —		
<i>Males</i>						(
Agriculture	9.2	4.4	2.09	7.1	4.4	1.61
Mining	1.2	1.0	1.20	2.6	1.7	1.53
Manufacturing	11.6	16.9	0.69	11.3	17.9	0.63
Electricity, gas, water	0.5	1.3	0.38	0.9	1.5	0.60
Construction	7.6	11.2	0.68	8.4	9.9	0.85
Wholesale, retail trade	20.0	38.9	0.51	13.3	24.6	0.54
Transport and storage	2.3	3.3	0.70	4.1	4.2	0.98
Communications	0.8	0.8	1.00	1.4	1.7	0.82
Financial services	2.4	5.2	0.46	2.8	10.8	0.26
Public administration	12.4	4.1	3.02	15.1	7.0	2.16
Community services	26.7	3.3	8.09	27.5	7.6	3.62
Recreation, personal services	5.2	9.5	0.55	5.6	8.6	0.65
Total (numbers)	3,271	223,800		5,202	416,800	
<i>Females</i>						
Agriculture	1.6	1.3	1.23	1.6	1.1	1.45
Mining	0.4	0.1	4.00	0.6	0.5	1.20
Manufacturing	5.0	5.1	0.98	5.1	8.4	0.61
Electricity, gas, water	0.1	0.0	na	0.2	0.5	0.40
Construction	0.8	0.8	1.0	1.1	1.3	0.85
Wholesale, retail trade	29.7	53.2	0.56	14.0	23.5	0.60
Transport and storage	0.8	1.8	0.44	1.3	2.9	0.45
Communications	0.6	0.1	6.00	1.4	0.8	1.75
Financial services	6.6	12.8	0.52	8.2	20.9	0.39
Public administration	11.6	2.3	5.04	16.2	5.6	2.89
Community services	31.1	8.5	3.66	41.3	21.1	1.96
Recreation, personal services	11.6	14.0	0.83	9.2	13.5	0.68
Total	2,385	223,300		3,854	379,500	
<i>Persons</i>						
Agriculture	6.0	2.8	2.14	4.8	2.8	1.71
Mining	0.8	0.6	1.33	1.7	1.1	1.55
Manufacturing	8.8	11.0	0.80	8.6	13.3	0.65
Electricity, gas, water	0.4	0.7	0.57	0.6	1.0	0.60
Construction	4.8	6.0	0.80	5.3	5.8	0.91
Wholesale, retail trade	24.1	46.0	0.52	13.6	24.1	0.56
Transport and storage	1.7	2.5	0.68	2.9	3.6	0.81
Communications	0.7	0.5	1.40	1.4	1.3	1.08
Financial services	4.2	9.0	0.47	5.1	15.6	0.33
Public administration	12.1	3.2	3.78	15.5	6.3	2.46
Community services	28.6	5.9	4.85	33.3	14.1	2.36
Recreation, personal services	7.9	11.7	0.68	7.1	10.9	0.65
Total	5,656	447,100		9,056	796,300	

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Table 4.9 presents industry data on the basis of sector of employment. Indigenous males and females in each of the age categories were more likely to be employed in the public sector than were other Australians. These figures present a minimum estimate of the difference for the reason presented in Chapter 1. A quarter of indigenous males aged 15-19 years worked in the public sector as defined here, compared with 11 per cent of non-indigenous males of this age. The public sector was even more important among 20-24 year old males. A third of indigenous males aged 20-24 years worked for the government compared with 18 per cent of other males. State and local governments were more important as employers of young indigenous males than they were for non-indigenous males.

TABLE 4.9 GOVERNMENT AND PRIVATE SECTOR EMPLOYMENT OF INDIGENOUS AND NON-INDIGENOUS YOUTH, 1991

Age	15-19 years			20-24 years		
	Indigenous (1)	Non- indigenous (2)	Ratio (1)/(2) (3)	Indigenous (4)	Non- indigenous (5)	Ratio (4)/(5) (6)
	— per cent —			— per cent —		
Males						
Government						
Commonwealth	6.2	5.1	1.22	8.5	7.8	1.09
State	6.2	4.7	1.32	12.1	8.0	1.51
Local	12.1	1.2	10.08	12.8	2.0	6.40
Private	75.5	89.0	0.85	66.7	82.2	0.81
Total (numbers)	3,310	225,500		5,285	421,900	
Females						
Government						
Commonwealth	7.6	2.9	2.62	13.2	6.5	2.03
State	10.4	3.1	3.35	19.0	14.4	1.32
Local	8.0	1.0	8.00	9.5	1.4	6.79
Private	74.0	93.0	0.80	58.3	77.7	0.75
Total (numbers)	2,418	225,800		3,896	381,700	
Persons						
Government						
Commonwealth	6.8	4.0	1.70	10.2	7.2	1.42
State	8.0	3.9	2.05	15.0	11.0	1.36
Local	10.4	1.1	9.45	11.4	1.7	6.71
Private	74.9	91.0	0.82	63.1	80.1	0.79
Total (numbers)	5,728	451,300		9,181	803,600	

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Public sector employment was particularly important for indigenous females, especially those aged 20-24 years. Forty-two per cent of indigenous females aged 20-24 years in employment were working for government. The Commonwealth Government and the State Governments were the two major employers.

In summary, many of the differences that are apparent in a comparison of the labour market characteristics of the total indigenous population with the rest of the Australian population, are in evidence among the young indigenous population. The data presented here do not suggest that there has been a dramatic change in the types of economic activities being undertaken by the new indigenous entrants to the labour market. Indigenous youth tended to be employed in the lower-skilled occupations and concentrated in public sector employment to a greater extent than non-indigenous youth. The next section will present data on the implications of these differences for the income status of indigenous youth compared with non-indigenous youth.

The income of young indigenous Australians

Table 4.10 presents data on the median income of young people according to their labour market status. Among 15-19 year olds, indigenous people fared relatively well. Indigenous males had a median income equal to that of non-indigenous males, while indigenous females had an average income 1.4 times that of non-indigenous females. In each labour force group, apart from employed males, indigenous people of this age actually had a higher average income than other young Australians.

TABLE 4.10 MEDIAN INCOMES OF INDIGENOUS AND NON-INDIGENOUS YOUTH BY LABOUR FORCE STATUS, 1991

Age	15-19 years		20-24 years	
	Indigenous (1)	Non-indigenous (2)	Indigenous (3)	Non-indigenous (4)
<i>Males</i>				
Employed	\$8,923	\$9,806	\$15,733	\$20,128
Ratio (1)/(2), (3)/(4)	0.91		0.78	
Unemployed	\$4,504	\$3,721	\$6,796	\$6,572
Ratio (1)/(2), (3)/(4)	1.21		1.03	
Not in the labour force	\$2,889	\$1,974	\$6,249	\$4,959
Ratio (1)/(2), (3)/(4)	1.46		1.26	
Total	\$3,733	\$3,713	\$7,958	\$16,816
Ratio (1)/(2), (3)/(4)	1.00		0.47	
<i>Females</i>				
Employed	\$8,200	\$7,337	\$15,415	\$18,419
Ratio (1)/(2), (3)/(4)	1.12		0.84	
Unemployed	\$4,976	\$3,739	\$6,990	\$6,241
Ratio (1)/(2), (3)/(4)	1.33		1.12	
Not in the labour force	\$3,817	\$2,084	\$8,351	\$4,456
Ratio(1)/(2), (3)/(4)	1.83		1.87	
Total	\$4,836	\$3,413	\$9,042	\$14,532
Ratio (1)/(2), (3)/(4)	1.42		0.62	
<i>Persons</i>				
Employed	\$8,605	\$8,772	\$15,600	\$19,268
Ratio (1)/(2), (3)/(4)	0.98		0.81	
Unemployed	\$4,695	\$3,730	\$6,855	\$6,457
Ratio (1)/(2), (3)/(4)	1.26		1.06	
Not in the labour force	\$3,340	\$2,026	\$7,415	\$4,686
Ratio(1)/(2), (3)/(4)	1.65		1.58	
Total	\$4,657	\$3,554	\$8,912	\$15,796
Ratio (1)/(2), (3)/(4)	1.31		0.56	

Source: 1991 Census, full Aboriginal sub-file and the 1 per cent ABS sample.

These are surprising results and perhaps can be explained by a number of factors. Firstly, part-time employment was greater for non-indigenous than for indigenous 15-19 year olds and the category 'employment' covers both full and part-time workers. Furthermore, relatively more indigenous youth were receiving educational benefits such as ABSTUDY which would boost their individual incomes because payments under ABSTUDY are more generous than under AUSTUDY (see footnote 1).

The income differences were much more pronounced for 20-24 year olds. Indigenous males and females of this age group had a median income 56 per cent of their counterparts in the rest of the population. The figures presented here emphasise the importance of employment in raising income. It is the large differences in the proportion of 20-24 year olds in employment which accounts for the substantial difference in median income.

Changes in education and employment for young indigenous Australians, 1986-91

Between 1986 and 1991 the number of Aborigines aged 15-24 years grew by 12 per cent, a growth of 6,273 people. This compared with a growth rate of 2.6 per cent and 65,466 people amongst other Australian youth. This section presents a summary of the changes in the employment

and education status of indigenous youth between the 1986 and 1991 censuses (for a fuller discussion see Daly 1993^b and 1993^c).

Between the two census years, there was a substantial increase in the age at which 15–19 year olds left school and in the proportion who were still at school. These results held for both males and females. However, the growth in educational attendance as measured by age on leaving school, was not as strong for indigenous youth as for non-indigenous youth. The proportion of young indigenous people who had received no schooling continued to fall, but there was little change for non-indigenous Australians as those who had received no schooling continued to account for less than 1 per cent of the 15–24 age group.

The general increasing attendance of young people at educational institutions was in evidence across the whole range of educational institutions. Amongst indigenous youth, the share of the 15–19 year age group attending an educational institution rose by 6.1 percentage points and for 20–24 year olds, by 2.4 percentage points between 1986 and 1991. These increases however, remained below the growth in educational attendance for the rest of Australian youth. Some interesting differences between the sexes are apparent among the indigenous 20–24 year age group. While males experienced greater growth in attendance at TAFE colleges, the growth in the number of indigenous women attending university was greater than for males.

Some important changes took place in labour force status. The declining opportunities for full-time employment and the increasing importance of part-time employment for this age group are very much in evidence in the changes which took place in the shares of labour force status categories. There were however, some important differences between indigenous and non-indigenous youth. While the proportion of indigenous youth in employment remained below that of non-indigenous youth, the share of indigenous youth in employment increased between 1986 and 1991 by 1.6 percentage points at a time when it declined by 7.9 percentage points for other young Australians.

As already described, there has been substantial growth in the retention of young Australians at educational institutions and the fall in the share in employment may be attributable in part to the increasing numbers still studying. The evidence presented here shows that the fall in employment for non-indigenous 15–19 year olds of 8.5 per cent was almost wholly offset by the increase in the proportion not in the labour force. Between 1986 and 1991, the census recorded little change in the proportion of this group unemployed and looking for full-time work. Among indigenous people in the 15–19 year age group, the increase in employment was associated with an increase in the proportion outside the labour force and a decline in unemployment. In other words comparing 1986 and 1991, in an accounting sense, there was a movement of 15–19 year old indigenous people out of unemployment into the employment and not in the labour force categories, while for non-indigenous Australians in this age group the movement has been from employment to outside the labour force. This was true for both males and females. The growth of the not in the labour force category can be partially explained by the increase in educational retention rates but may also reflect any growth in the number of young discouraged workers who have ceased to look for employment.

The pattern for 20–24 year olds was somewhat different. There was a decline in the share of indigenous and non-indigenous Australians in this

age group in full-time employment. However, this was offset by an increase in part-time employment for indigenous youth but not for other Australian youth. The pattern of change in indigenous labour force status varied by section-of State. The increase in the share of 15–24 year old indigenous people in employment was concentrated in the rural areas and the employment share actually fell in the urban areas.

There were also some substantial changes in the types of employment of indigenous youth. Among indigenous and non-indigenous Australians aged 15–19 years, the largest changes were the relative decline in the employment of clerks and the increase in the employment of salespersons, especially among non-indigenous people. The share of clerical employment in the total employment of 20–24 year olds also fell for both indigenous and non-indigenous Australians, while salespersons accounted for a larger share of this age group's employment. The share of employment of indigenous 20–24 year olds in labouring occupations fell.

These occupational shifts are also apparent in the changes which took place in the industry of employment. Wholesale and retail trade increased its share of employment for both indigenous and other young Australians while agriculture recorded a declining share. Community services had the fastest growing share of indigenous employment in each age group in contrast to the small decline in the share of employment in this industry among other young Australians. For these people, the wholesale and retail trade was the fastest growing industry for 15–19 year old employment, with recreational and personal services for 20–24 year olds.

A final comparison to be made between 1986 and 1991 Census data relates to income. The income ratio did not change greatly over this limited period. There was however, some fall in the relative median income of employed indigenous males, perhaps reflecting a growing concentration in part-time CDEP employment.

Conclusion

The position of young indigenous people in the labour market and in the education system is an important indicator of the effects of education and employment policy because it is among this group that signs of improvement in socioeconomic status should be most apparent. For example, a policy aimed at raising indigenous educational attainment will have little direct impact on the educational levels of fifty year olds, but rather, should influence the attainment of those currently completing their education.

While there have been significant improvements in the educational attainment of indigenous people in the last twenty years, this chapter shows that a substantial gap remains to be closed before the AEP goal of equality in educational attainment is achieved. The census data show that young indigenous people were more likely to have left school early and had lower levels of qualifications than non-indigenous Australians. The estimated differences in educational attainment presented here are probably conservative.

The evidence on labour market activity also suggests that indigenous youth remain at a disadvantage compared with non-indigenous youth. They were less likely to be in employment and more likely to be unemployed. A large group of young indigenous people, especially females, remained outside the labour force and as they were not recorded as attending an educational institution, the census provides no information on their activities.

The most recent recession appears, however, to have affected the labour market status of young indigenous and non-indigenous Australians in different ways. While the share of full-time employment declined for all young Australians between 1986 and 1991, the increase in the share of young indigenous people in part-time employment was sufficient to offset this. As a consequence, the proportion of Aborigines in this age group in employment actually rose between 1986 and 1991. This contrasted with a decline for other young Australians. The proportion of young Aborigines who were unemployed also fell, once again in contrast to the increase among other young Australians. The increase in educational retention rates, especially among 15–19 year old non-indigenous youth, is reflected in the increased proportion who were not in the labour force.

The data presented here show that those indigenous people in employment were in lower skilled jobs compared to their non-indigenous counterparts and were more likely to be in public sector employment. The differences in the employment rate and the types of work of indigenous and non-indigenous youth have important implications for their income status. Among 15–19 year olds, there was little difference in median incomes for the two groups but among 20–24 year olds, where a larger proportion of non-indigenous people were in employment, indigenous median income fell to 56 per cent of that of non-indigenous people. This ratio had changed little since 1986.

CHAPTER 5

OLDER INDIGENOUS AUSTRALIANS IN THE LABOUR MARKET

The purpose of this chapter is to document the educational and economic status of older indigenous Australians and to make comparisons with other Australians in the same age group. These people aged 50 years and over in 1991, grew up under a very different legal regime to that found today. Prior to the legal and policy changes of the 1960s and 70s, the underlying philosophies guiding relationships between the state and Australia's indigenous people were 'protection' and 'assimilation'. These excluded indigenous people from many of the rights of citizenship held by other Australians (Rowley (1971^a and ^b), Broom and Jones (1973), Altman and Sanders 1991^a). Each State government was responsible for the welfare of its indigenous population and Commonwealth government intervention in indigenous affairs was limited by the Constitution. The indigenous people belonging to the age group covered in this chapter spent their formative years under regimes, varying according to State, which restricted their movements, limited their ability to receive cash payments for work or their entitlement to social security, and offered limited educational opportunities.

The first part of the chapter examines the consequences of some of these policies for the educational status of indigenous people aged 50 years and over in 1991. The second part describes their labour market status, including the distribution of the employed by occupation and industry, and their income status. These outcomes are a product of both past and present actions. A final section highlights the significant changes in these indicators between 1986 and 1991 for those aged 50 years and over. These changes reflect both the changes in the opportunities available to different age cohorts during their formative years and the prevailing conditions at the time of the 1986 and 1991 Censuses.

There are important differences in the demographic structure of the indigenous and non-indigenous populations of Australia (see also chapter 4). Older people form a much smaller proportion of the adult indigenous population than older non-indigenous people. In 1991, 15 per cent of the indigenous population aged 15 and over were aged 50 years and over, compared with 32 per cent of other Australians. Females accounted for 53 per cent of each group. Between 1971 and 1991, the 50 and over age group accounted for a fairly constant 31 per cent of the non-indigenous population aged over 15 years, but the percentage of the adult indigenous population in this age group fell from 19 per cent in 1971 to 15 per cent in 1991.

These figures reflect not only the higher birth rate of indigenous people, compared with other Australians (Gaminiratne 1992), but also their shorter life expectancy. The life expectancy of indigenous people varies by region across Australia, and estimates put it at between 10 and 20 years less than that of the total Australian population. Indigenous Australians have much higher death rates during adult years than other Australians; the major causes of death being circulatory diseases and external causes, such as motor vehicle and other accidents, suicide and homicide (Gray 1990; Saggars and Gray 1991; Thomson and Briscoe 1991^a, 1991^b, 1991^c, 1991^d, 1991^e). The higher adult death rate is

indicative of wider indigenous health problems which inhibit the ability of individuals in older age groups to actively participate in paid employment. Unfortunately, the important issue of health is not addressed in the census.

Educational attainment

Tables 5.1 and 5.2 present comparative data on the educational attainment of indigenous males and females aged 50 and over. It is important to remember that these data relate to people born before 1942, and as such their involvement in the education system substantially predates all the recent government policies which have aimed to raise the educational attainment of indigenous people. Table 5.1 compares the age on leaving school for 50-64 year olds and those over 65 years of age. In each age group indigenous people had less formal schooling, on average than other Australians. Seventeen per cent of indigenous people aged 50-64 years in 1991 had not attended school compared with 2 per cent of other Australians. Only 6 per cent had continued at school after the age of 16 years compared with 18 per cent of other Australians. A similar pattern was in evidence for each sex. There is some evidence however, of improved access to schooling for indigenous Australians in the 1930s and 1940s compared with earlier periods. Among the older age group, those aged 65 years and over, 32 per cent had received no schooling compared with 2 per cent of other Australians. While the share with no schooling had therefore remained constant between the two age categories for non-indigenous Australians, it fell by 15 percentage points for indigenous Australians.

TABLE 5.1 AGE ON LEAVING SCHOOL FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 50 YEARS AND OVER BY SEX, 1991

Age on leaving school	50-64 years			65+ years		
	Indigenous (1)	Non-indigenous (2)	Ratio (1)/(2) (3)	Indigenous (4)	Non-indigenous (5)	Ratio (4)/(5) (6)
	— per cent —			— per cent —		
Males						
14 or younger	41.7	32.5	1.28	42.7	51.4	0.83
15	24.2	30.2	0.80	11.1	19.5	0.57
16	10.0	15.3	0.65	6.3	12.7	0.50
17	2.8	9.6	0.29	1.9	6.6	0.29
18	1.1	5.9	0.19	1.1	3.9	0.28
19 and older	1.9	5.0	0.38	2.5	4.6	0.54
No schooling	18.2	1.5	12.13	34.4	1.4	24.57
Total (number)	6,609	1,008,300		2,445	668,000	
Females						
Age on leaving school						
14 or younger	37.4	30.5	1.23	43.1	48.6	0.89
15	27.9	33.4	0.84	13.6	21.4	0.64
16	11.4	17.7	0.64	7.7	14.7	0.52
17	3.2	9.3	0.34	2.5	7.1	0.35
18	1.2	3.9	0.31	1.3	3.4	0.38
19 and older	2.2	2.7	0.81	1.3	2.7	0.48
No schooling	16.7	2.4	6.96	30.4	2.2	13.82
Total (number)	2,445	668,000		9,817	1,375,700	
Persons						
Age on leaving school						
14 or younger	39.5	31.5	1.25	42.9	49.8	0.86
15	26.1	31.8	0.82	12.5	20.6	0.61
16	10.7	16.5	0.65	7.1	13.8	0.51
17	3.0	9.5	0.32	2.3	6.9	0.33
18	1.2	4.9	0.24	1.2	3.6	0.33
19 and older	2.1	3.9	0.54	1.9	3.5	0.54
No schooling	17.4	1.9	9.16	32.2	1.8	17.89
Total (number)	13,757	1,990,000		5,443	1,513,400	

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Table 5.2 also shows a substantial difference in the level of qualifications held by indigenous and other Australians. (In the interests of the economy of space the two age categories have been combined as the broad conclusions remain the same). Ninety-five per cent of indigenous males and females aged 50 years and over held no qualification, compared with 75.3 per cent of other Australians. Males were somewhat more likely to hold a qualification than females. Certificates were by far the most important type of qualification held by males, but there was a 20 percentage point difference between indigenous and other Australians in the share of males with these qualifications. These differences in educational attainment might be expected to effect labour force status, the issue of the next section.

TABLE 5.2 LEVEL OF QUALIFICATION FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED OVER 50 YEARS BY SEX, 1991

Qualification	Males			Females			Persons		
	Indi- genous (1)	Non-indi- genous (2)	Ratio (1)/(2) (3)	Indi- genous (4)	Non-indi- genous (5)	Ratio (4)/(5) (6)	Indi- genous (7)	Non-indi- genous (8)	Ratio (7)/(8) (9)
	— per cent —			— per cent —			— per cent —		
University degree	0.5	6.9	0.07	0.6	3.5	0.17	0.6	5.2	0.12
Diploma	0.3	2.5	0.12	0.9	4.9	0.18	0.7	3.8	0.18
Other certificate(a)	6.6	26.6	0.25	1.8	5.7	0.32	4.0	15.7	0.25
No qualification	92.6	63.9	1.45	96.8	85.9	1.13	94.8	75.3	1.26
Total	9,126	1,608,200		10,313	1,738,900		1,943,900	3,347,100	

(a) Includes associate diploma, skilled vocational, basic vocational and level of attainment inadequately described.

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Labour market status

The employment population ratio of indigenous males and females aged 50 years and over has fallen below that of other Australians in each census since 1976. An implication of this for indigenous males is that their employment ratio has not kept up with the declining ratio in the wider male population. (For a discussion of the international trend toward declining participation rates among older males see Pencavel (1986) and Juhn (1992)). Against the general trend of a rising employment population ratio for females, this ratio fell slightly for indigenous and non-indigenous females aged 50 years and over during the period 1976–86. This declining trend was, however, reversed between 1986 and 1991.

Table 5.3 presents more detailed data from the 1991 Census on the labour force status of this group by age category and sex and figures 5.1–5.3 highlight the major differences between indigenous and other Australians. The table shows that for both indigenous and non-indigenous Australians, there are strong life cycle effects on labour force participation and employment. A familiar pattern, however, is apparent. Indigenous people experienced lower rates of employment, higher rates of unemployment and a higher incidence of people outside the labour force (see figure 5.3). Even among the age group most likely to be in the labour force, 50–54 year olds, over half of indigenous people were not in the labour force compared with 26.5 per cent of non-indigenous Australians.

Full-time employment accounted for the larger share of those in employment for both indigenous and other Australians. Although the CDEP scheme provides part-time jobs for people in indigenous communities, and therefore could be expected to add to the number of reported part-time workers, the proportion of persons working part-time was higher among other Australians than among indigenous people.

TABLE 5.3 LABOUR FORCE STATUS OF OLDER INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS BY SEX, 1991

Age	Labour force status(a)						Not in labour force	Total number
	Full-time employment(b)	Part-time employment(c)	Total employment(d)	Full-time employment(e)	Part-time employment(f)	Total labour force		
— per cent —								
Males								
Indigenous								
50-54	32.8	11.5	47.6	10.0	2.3	59.9	40.1	3,207
55-59	27.6	8.9	39.5	8.8	2.3	50.6	49.4	2,425
60-64	16.4	8.5	27.4	6.4	2.0	35.8	64.2	1,775
65+	3.4	2.8	7.4	1.4	0.9	9.7	90.3	3,062
Total	20.0	7.8	30.5	6.5	1.8	38.8	61.2	10,469
Non-indigenous								
50-54	65.9	10.4	79.8	6.4	1.0	87.2	12.8	393,500
55-59	54.4	9.6	67.3	7.5	1.1	75.9	24.1	335,500
60-64	33.2	10.4	46.3	6.9	1.5	54.7	45.3	335,300
65+	4.4	3.3	8.7	0.2	0.3	9.2	90.8	765,800
Total	32.0	7.3	41.6	4.1	0.8	46.5	53.5	1,830,100
Females								
Indigenous								
50-54	14.0	11.3	27.9	3.6	1.8	33.3	66.7	3,344
55-59	7.8	8.3	18.0	2.0	2.0	22.0	78.0	2,528
60-64	3.2	2.9	7.0	1.2	1.1	9.3	90.7	2,291
65+	0.7	1.3	3.0	0.7	0.9	4.6	95.4	3,761
Total	6.4	5.9	14.0	1.9	1.4	17.3	82.7	11,924
Non-indigenous								
50-54	28.2	23.9	55.0	2.7	1.4	59.1	40.9	376,300
55-59	17.5	16.7	36.0	1.8	1.2	39.0	61.0	318,700
60-64	7.6	7.4	16.2	0.3	0.4	16.9	83.1	342,000
65+	1.2	1.5	3.4	0.1	0.3	3.8	96.2	1,002,900
Total	9.8	9.0	20.2	0.9	0.6	21.7	78.3	2,039,900
Persons								
Indigenous								
50-54	23.2	11.4	37.5	6.8	2.0	46.3	53.7	6,551
55-59	17.5	8.6	28.5	5.3	1.5	20.9	64.1	4,953
60-64	9.0	5.3	15.9	3.5	1.5	20.9	79.1	4,066
65+	1.9	2.0	5.0	0.9	0.9	6.8	93.2	6,823
Total	12.9	6.8	21.7	4.1	1.6	27.4	72.6	22,393
Non-indigenous								
50-54	47.5	17.0	67.7	4.6	1.2	73.5	26.5	769,800
55-59	36.5	13.0	52.3	4.7	1.1	58.1	41.9	654,200
60-64	20.3	8.9	31.1	3.6	0.9	35.6	64.4	677,300
65+	2.6	2.3	5.7	0.2	0.3	6.1	93.9	1,768,700
Total	20.3	8.2	30.3	2.4	0.7	33.4	66.6	3,870,000

(a) Excludes those who did not state their labour force status. (b) 35+ hours worked per week. (c) Less than 35 hours worked per week. (d) Includes those who stated that they were employed but did not state their hours of work. (e) Includes those who were actively looking for full-time employment. (f) Includes those who were actively looking for part-time employment.

Among 50-54 year old non-indigenous males, 79.8 per cent were in employment, but for those aged 65 years and over and entitled to a pension, paid employment was a minority activity. An equivalent pattern of declining employment rates was also in evidence for indigenous males but even among 50-54 year olds, only 37.5 per cent were in employment. The lower employment rates of indigenous males in this age group were offset by higher unemployment rates, but more importantly by a larger proportion who described themselves as being outside the labour force. Forty per cent of the indigenous males in this age group considered themselves outside the labour force, compared with 13 per cent of non-indigenous males, a ratio of three (see figure 5.1). Either this group had never actively participated in paid employment, or the transition out of the labour force came at a much earlier age for indigenous than for non-indigenous males.

FIGURE 5.1: THE RATIO OF THE SHARE OF INDIGENOUS TO NON-INDIGENOUS MALES IN EACH LABOUR FORCE CATEGORY, 1991

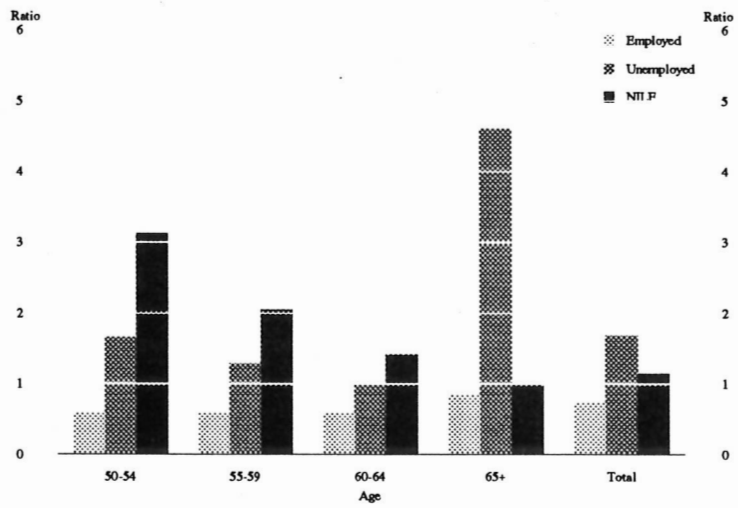


FIGURE 5.2: THE RATIO OF THE SHARE OF INDIGENOUS TO NON-INDIGENOUS FEMALES IN EACH LABOUR FORCE CATEGORY, 1991

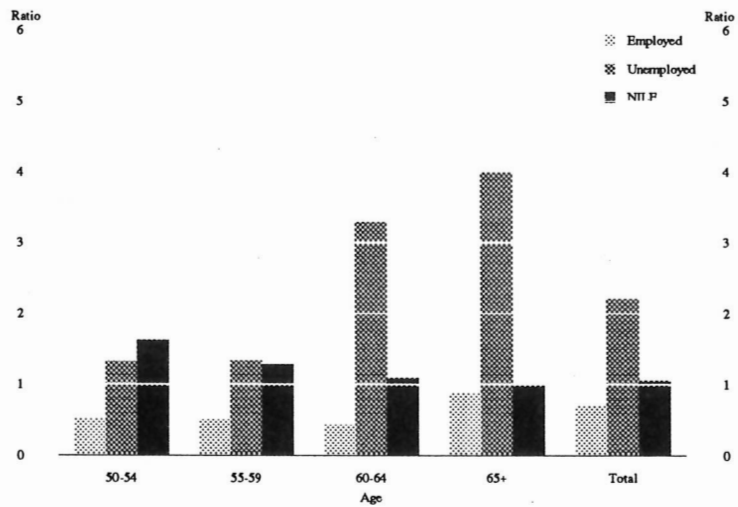
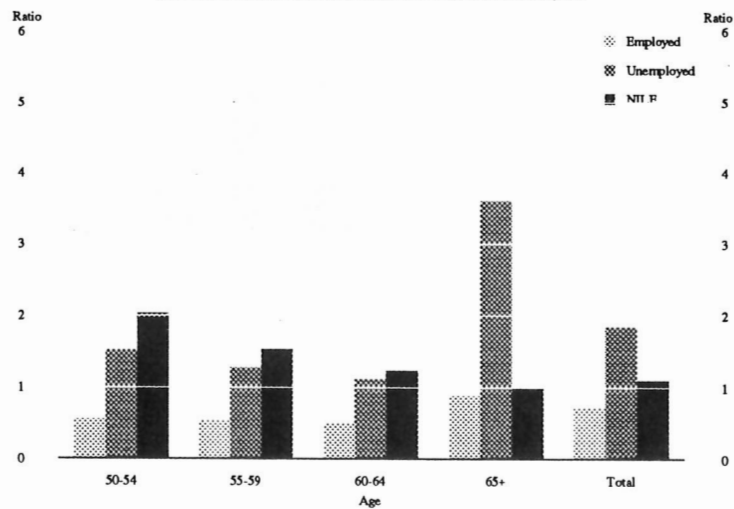


FIGURE 5.3: THE RATIO OF THE SHARE OF INDIGENOUS TO NON-INDIGENOUS PERSONS IN EACH LABOUR FORCE CATEGORY, 1991



There was a similar proportion of indigenous and non-indigenous males in part-time employment. In the case of indigenous males, this should include those who were working part-time under the CDEP scheme. However, as a share of total employment, part-time employment was more important for indigenous males, accounting for a quarter of employment compared with 18 per cent of employment among other Australian males over 50 years of age.

There were proportionately fewer females over 50 years in paid employment than males, but the same pattern of reducing attachment to the labour force with age was apparent. Fifty-five per cent of non-indigenous females aged 50-54 years were in employment, while 3 per cent of those over 65 years of age were in this category. There was a similar, but not so dramatic, decline in the employment rate of indigenous females. Even at its peak among 50-54 year olds, only 28 per cent of indigenous females were in employment, but this figure fell to 3 per cent among those over 65 years. Females are currently eligible for the old age pension from 60 years, but the steady decline in the proportion in employment preceeded the age of eligibility for the old age pension. Unemployment was markedly lower among females than among males, but the indigenous rate remained above the non-indigenous rate (see figure 5.2). Any effect of the CDEP scheme in promoting part-time employment for indigenous females, was not sufficient to make part-time employment a more frequent activity for indigenous compared with other Australian females.

Location of residence, as measured by section-of-State, is an important determinant of labour force status for indigenous people. Table 5.4 presents labour force status of older indigenous and non-indigenous Australians for two broad age categories; those aged 50-64 years and still of working age, and those over 64 years, by section-of-State.

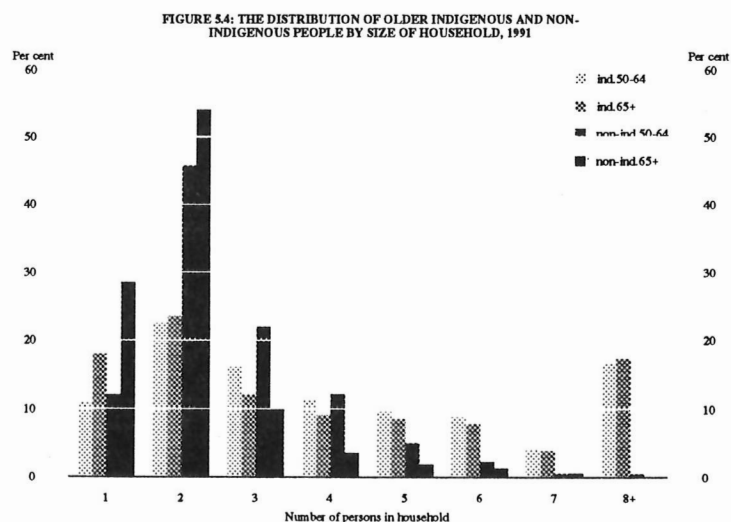


TABLE 5.4. LABOUR FORCE STATUS OF OLDER INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS BY SECTION-OF-STATE, 1991

Section-of-State	Indigenous			Non-indigenous		
	Major urban	Other urban	Rural	Major urban	Other urban	Rural
— per cent —						
<i>Males</i>						
50–64 years age group in each section-of-State (%)	25.0	36.0	39.0	63.8	19.2	17.0
Labour force status						
Employed	45.9	35.9	40.8	66.5	60.5	66.7
Unemployed	12.3	12.6	8.7	8.1	7.8	8.4
NILF(a)	41.7	51.5	50.5	25.4	31.7	24.9
Total	1,624	2,808	2,975	668,200	219,100	177,000
65+ years age group in each section-of-State (%)	23.0	30.2	46.7	55.3	16.8	27.9
Labour force status						
Employed	7.4	5.5	9.2	7.6	5.7	19.6
Unemployed	2.7	2.2	1.6	0.4	0.6	0.5
NILF(a)	89.8	92.3	89.3	92.0	93.7	79.9
Total (numbers)	660	1,136	1,266	482,100	187,100	96,900
<i>Females</i>						
50–64 years age group in each section-of-State (%)	33.0	40.2	26.8	65.3	18.1	16.5
Labour force status						
Employed	25.5	17.9	15.3	37.5	30.6	41.3
Unemployed	4.2	5.3	2.8	2.8	2.3	2.3
NILF(a)	70.4	77.3	81.9	59.7	67.2	56.4
Total	2,096	3,283	2,784	658,400	224,500	154,000
65+ years age group in each section-of-State (%)	29.5	41.0	29.5	55.9	19.8	24.3
Labour force status						
Employed	3.8	2.2	3.3	2.8	2.6	9.8
Unemployed	1.6	2.4	0.7	0.4	0.4	0.4
NILF(a)	94.7	95.3	96.0	96.8	97.0	89.8
Total (numbers)	960	1,513	1,288	665,000	248,000	89,900
<i>Persons</i>						
50–64 years age group in each section-of-State (%)	27.7	37.4	34.9	64.3	18.8	16.8
Labour force status						
Employed	34.4	27.0	28.5	52.1	45.4	54.9
Unemployed	7.7	8.9	5.8	5.5	5.0	5.5
NILF(a)	57.9	67.3	65.7	42.4	49.7	39.5
Total	3,720	6,091	5,759	1,326,600	443,600	331,000
65+ years age group in each section-of-State (%)	25.4	34.3	40.3	55.5	17.8	26.6
Labour force status						
Employed	5.2	3.7	6.2	4.8	3.9	14.9
Unemployed	2.0	2.3	1.1	0.4	0.5	0.5
NILF(a)	92.7	94.0	92.7	94.8	95.6	84.6
Total (numbers)	1,620	2,649	2,554	1,147,100	435,100	186,800

(a) NILF means not in the labour force.

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

Labour force in rural areas

Indigenous people were more likely to be unemployed in the urban centres but there were similar unemployment rates in the rural areas for indigenous and non-indigenous Australians. This probably reflects the shift of people, particularly males, out of unemployment into employment under the CDEP scheme (Taylor 1993).

Retirement from paid employment was the major activity for all people over the age of 64 years. The largest group to remain in employment among this age group were those living in rural areas. Almost one-fifth of non-indigenous males over the age of 64 years and living in a rural area were employed.

Industry and occupation of employment

As Table 5.3 shows, paid employment among these older people was mainly restricted to those of working age, that is aged 50-64 years. Tables 5.5 and 5.6 therefore relate to this age group. The results follow the general patterns of indigenous employment concentration in the less skilled occupations, and in particular industries.

About a third of indigenous males and females in employment were occupied as labourers over twice the percentage of other Australian males and females (see Table 5.5). Indigenous males were correspondingly under-represented among the more skilled occupations of managers and professionals. While proportionately fewer indigenous females were occupied as managers and professionals, it is interesting to note that para-professionals represented a slightly larger proportion of employed indigenous females than other Australian females. Older indigenous females were less likely to be employed as clerks than other Australian females.

Table 5.6 describes the industry of employment of indigenous people aged 50-64 years and compares this to the industry distribution of other Australians. The general result that indigenous people tend to be concentrated in community services and public administration is also apparent among these older workers (Taylor 1992). Half of older indigenous people were employed in these two sectors compared with a quarter of other Australians. Indigenous males were less likely to be in the manufacturing and wholesale and retail trades than other Australian males. Indigenous females were also under-represented in wholesale and retail trade and in the finance and property industries.

TABLE 5.5 OCCUPATION OF EMPLOYED INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 50-64 YEARS, 1991

	<i>Indigenous</i> (1)	<i>Non-indigenous</i> (2)	<i>Ratio</i> (1)/(2) (3)
— per cent —			
<i>Males</i>			
Managers and administrators	8.2	21.0	0.39
Professionals	5.9	11.5	0.51
Para-professionals	7.4	5.4	1.37
Tradespersons	16.1	19.2	0.84
Clerks	3.9	7.0	0.56
Salespersons, etc.	3.1	8.5	0.36
Plant and machinery operators and drivers	19.0	12.4	1.53
Labourers	36.4	15.1	2.41
Total	2,539	649,600	
<i>Females</i>			
Managers and administrators	7.0	13.0	0.54
Professionals	10.8	11.6	0.93
Para-professionals	9.5	7.3	1.30
Tradespersons	9.2	3.5	2.63
Clerks	13.5	29.3	0.46
Salespersons, etc.	13.7	16.2	0.85
Plant and machinery operators and drivers	2.6	3.1	0.84
Labourers	33.6	16.0	2.10
Total	1,324	348,200	
<i>Persons</i>			
Managers and administrators	7.8	18.2	0.43
Professionals	7.6	11.5	0.66
Para-professionals	8.2	6.0	1.37
Tradespersons	13.8	13.8	1.00
Clerks	7.2	14.8	0.49
Salespersons, etc.	6.7	11.2	0.60
Plant and machinery operators and drivers	13.4	9.2	1.46
Labourers	35.4	15.4	2.30
Total	3,863	997,800	

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

TABLE 5.6 INDUSTRY OF EMPLOYMENT FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 50-64 YEARS, 1991.

	Indigenous (1)	Non- indigenous (2)	Ratio (1)/(2) (3)
— per cent —			
<i>Males</i>			
Agriculture	10.1	7.9	1.28
Mining	2.8	1.2	2.33
Manufacturing	9.1	18.9	0.48
Electricity, gas, water	2.8	2.8	1.00
Construction	7.0	8.4	0.83
Wholesale, retail trade	7.4	17.5	0.42
Transport, storage	9.8	7.3	1.34
Communications	1.6	2.3	0.70
Finance, property etc.	2.6	10.0	0.26
Public administration	15.1	6.8	2.22
Community services	27.6	12.0	2.30
Recreation, personal services	4.1	5.0	0.82
Total	2,613	646,900	
<i>Females</i>			
Agriculture	3.1	7.1	0.04
Mining	0.0	0.4	n.a.
Manufacturing	6.2	10.5	0.59
Electricity, gas, water	0.0	0.3	n.a.
Construction	0.8	2.4	0.33
Wholesale, retail trade	7.7	19.4	0.40
Transport, storage	2.1	1.9	1.11
Communications	1.4	1.0	1.40
Finance, property etc.	4.6	10.4	0.44
Public administration	9.9	4.2	2.36
Community services	54.4	34.2	1.59
Recreation, personal services	9.8	8.2	1.20
Total	1,315	344,700	
<i>Persons</i>			
Agriculture	7.8	7.6	1.03
Mining	1.8	0.0	na
Manufacturing	8.1	16.0	0.50
Electricity, gas, water	1.8	1.9	0.95
Construction	5.0	6.3	0.79
Wholesale, retail trade	7.5	18.1	0.41
Transport, storage	7.2	5.4	1.33
Communications	1.6	1.9	0.84
Finance, property etc.	3.2	10.1	0.32
Public administration	13.4	5.9	2.27
Community services	36.6	19.7	1.86
Recreation, personal services	6.0	6.1	0.98
Total	3,928	991,600	

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

TABLE 5.7 GOVERNMENT AND PRIVATE SECTOR EMPLOYMENT OF INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 50-64 YEARS, 1991

	<i>Indigenous</i> (1)	<i>Non-indigenous</i> (2)	<i>Ratio</i> (1)/(2) (3)
	— per cent —		
<i>Males</i>			
Government			
Australian	5.8	5.8	1.00
State	19.3	13.8	1.40
Local	14.6	3.7	3.95
Private	60.3	76.7	0.75
Total	2,668	661,100	
<i>Females</i>			
Government			
Australian	6.2	3.8	1.63
State	30.5	18.0	1.69
Local	15.9	1.8	3.28
Private	57.4	76.4	0.75
Total	1,356	355,800	
<i>Persons</i>			
Government			
Australian	6.0	5.1	1.18
State	23.1	15.3	1.51
Local	11.7	3.0	3.90
Private	59.3	76.6	0.77
Total	4,024	1,016,900	

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

This concentration of indigenous employment in particular industries is also apparent in the industry data presented in Table 5.7 on a government/private sector basis. Both indigenous males and females were more likely to work in the public sector than their non-indigenous counterparts. The State governments were particularly important employers of Aboriginal people, accounting for almost a quarter of the total indigenous employment in this age group.

Income

A major research question which arises from any discussion of the declining labour force participation of people aged 50 years and over relates to their alternative sources of income outside employment (see Woodland 1987 for a discussion of the relationship between labour force status and eligibility for the pension). Unfortunately, the census does not provide any information on sources of income, but case study evidence relating to indigenous people suggests that welfare transfers from government accounted for an important part of the income of people who were not in paid employment (Fisk 1985; Altman and Smith 1993). Among Australians in general, the 1986 Income and Housing Survey showed that for those over the age of 50 years, 50 per cent of males and 80 per cent of females cited a government pension as their principle source of income. Amongst those not in the labour force, 70 per cent received more than half of their income from government pensions (ABS 1989).

The census does however, provide a breakdown of income according to labour force status, and these figures for indigenous and non-indigenous males and females aged 50-64 years are presented in Table 5.8. The table also presents data on the median income of those 65 years and over. Familiar themes are apparent in these data. Indigenous people of working age had a median income 60 per cent of other Australians but this rose to 90 per cent among the over 65 year olds, as the proportion of non-indigenous people in employment declined.

Indigenous males aged 50-64 years and in employment had a median income equal to 70 per cent of other Australian males in employment. However, for those classified as either unemployed or not in the labour force, the median income was 90 per cent of that of other Australian males. Taking the group as a whole, indigenous males had a median income which was 50 per cent that of other Australians in the same age category. This difference can be explained by the much larger proportion of non-indigenous males in employment.

There was a smaller income gap for indigenous females aged 50-64 years compared with other Australian females than for males, a ratio of 90 per cent. The median income of indigenous females who were unemployed was equal to that of other Australian females and for those outside the labour force, it was 10 per cent higher. Indigenous females in employment had a lower income than their non-indigenous counterparts.

In 1991, the basic annual old age pension was \$150.80 per week (\$7,841.60 per year) for an individual and \$251.50 per week (\$13,078.0 per year) for a couple living together. Females over the age of 60 years and males over the age of 65 were entitled to this, subject to both income and assets tests. The median income for those 65 years and over reported in Table 5.8 is rather low given this pension entitlement, and suggests that there may be some under-reporting of income by this group or perhaps a group of people who have not taken up their pension entitlement. The census figures show that indigenous males had an income which was 80 per cent of their non-Aboriginal counterparts, while indigenous females had the same median income.

The data presented in Table 5.8 relate to individual incomes. An individual's economic wellbeing also depends on the incomes of other members of the household and the number of people who share the household income. Figure 5.4 shows that there are substantial differences in the types of households in which older indigenous and other Australian people lived. The most striking feature of the graph is the much larger percentage of older indigenous people living in large households. Twenty-nine per cent of indigenous persons in each age category lived in households of six or more people, compared with 2-3 per cent of other Australians. This difference was offset by the smaller percentage of non-indigenous Australians living in small households. It is not proposed to investigate these differences in household structure in greater detail here, but they do suggest that the level of household, as well as individual income, may be an important determinant of the economic status of this age group.

TABLE 5.8 MEDIAN INCOMES OF INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED OVER 50 YEARS BY LABOUR FORCE STATUS, 1991

	Males			Females			Persons		
	Indi- genous (1)	Non-indi- genous (2)	Ratio (1)/(2) (3)	Indi- genous (4)	Non-indi- genous (5)	Ratio (4)/(5) (6)	Indi- genous (7)	Non-indi- genous (8)	Ratio (7)/(8) (9)
	— dollars —			— dollars —			— dollars —		
Aged 50-64 years									
Labour force status									
Employed	18,728	25,255	0.7	15,191	17,549	0.9	17,521	22,727	0.8
Unemployed	7,466	7,985	0.9	6,929	6,670	1.0	7,304	7,636	1.0
NILF(a)	7,231	7,996	0.9	7,381	6,792	1.11	7,319	7,168	1.0
Total	9,546	20,028	0.6	7,828	8,632	0.9	8,403	13,591	0.6
Aged 65 years and over									
Total	7,457	8,928	0.8	7,531	7,913	1.0	7,497	8,265	0.9

(a) Not in the labour force.

Source: 1991 Population Census, full Aboriginal sub-file and the 1 per cent ABS sample.

In an attempt to standardise differences in household size, Table 5.9 compares the median income per median number of household members for indigenous and non-indigenous Australians in two age categories: 50-64 years and those over 64 years. There are a number of shortcomings with these figures, and they should be thought of as a rough guide to the order of magnitude of income differences between indigenous and other Australians. A major problem has been one of non-response. In the 1986 Census, the 'not stated' category for indigenous household income accounted for 24 per cent of all indigenous households because household income was not calculated whenever any of the necessary individual income data for its calculation were missing. In 1991, for the first time, the ABS has imputed missing income data and this has reduced the 'not stated' category for household income to 6 per cent of households. It should also be noted that these figures relate to individuals living in private dwellings and exclude the institutionalised population.

As Table 5.9 shows, taking the differences in household structures into account changed the relative position of older indigenous people compared with other Australians. The median income of households which had one indigenous resident aged 50-64 years was 90 per cent of other Australian households containing a person in this age group. However, once the larger size of indigenous households was taken into account, the median income per household member fell to half that of non-indigenous households. There was a similar fall in the income ratio for households containing a person aged 65 years and over. The median income for these indigenous households was 40 per cent higher than for non-indigenous households but the larger household size meant that ratio of income per household member for indigenous households fell to 71 per cent of that of non-indigenous households.

Changes in educational and employment status, 1986-91

This section presents data on the changing education and employment status of older indigenous Australians compared with other Australians, over the period 1986-91. These outcomes reflect both changes between age cohorts and the more widespread conditions prevailing at the time of each census. So, for example the changing educational attainment suggests an improvement in educational opportunities for indigenous Australians roughly between the 1930s and 1940s. It is unlikely that changes in the educational opportunities of indigenous Australians between 1986 and 1991 will have much altered the educational attainment of these older people. However, the improvement in labour force status between the two census years indicates the effects of changing conditions in the labour market over that period in addition to any cohort-specific effects. For a fuller discussion of these changes and the 1986 data see Daly (1994^a) and Daly (1993^e).

There is some evidence that birth cohort influenced educational attainment. In comparison to the people who were aged 50 years and over in 1986, those aged 50 years and over in 1991 (these groups are of course, not mutually exclusive) had a higher level of educational attainment. Among indigenous people, there had been a substantial decline in the share of those who had never attended school (16 percentage points), and among non-indigenous people, a substantial decline in the share of those who had left school before the age of 15 years (8 percentage points). Although there is evidence that there was some improvement in the access to schooling for this age group of indigenous Australians, the fact that other Australians also increased their age on leaving school, means that indigenous people remained behind in terms of years of schooling.

The changes in the labour force status of indigenous people also suggest some positive developments. There was relatively strong growth in the share of employment for indigenous Australians in each of these age categories over the five year period which exceeded that for other Australians (3 percentage points compared with 1 percentage point). The indigenous not in the labour force category declined by 3 percentage points, while this category grew among other Australians by 1 percentage point. This improvement in the employment status of indigenous people relative to other Australians is probably a result of the expansion of the CDEP scheme and as such, should not be taken as an indicator of indigenous employment growth apart from that related to direct government support.

There were some significant changes in the types of work of indigenous people aged 50–64 years. There was a substantial decline in the share of indigenous Australians employed as labourers (10 percentage points) and increases in the proportion employed in the more skilled occupations, including managerial, professional and para-professional occupations. These results held for both males and females and there were larger absolute changes in the occupational distribution of indigenous than non-indigenous Australians.

There were also some quite large changes in the relative importance of particular industries for employment with wholesale and retail trade and community services increasing their share of employment by 2 and 4 percentage points respectively. Among indigenous people, agriculture and transport and storage each reduced their share of employment by 3 percentage points. At a sector level, the decline in the share of indigenous employment in State governments was offset by an increase in the share of employment classified to the private sector.

There was no change between 1986 and 1991 in the income ratio for males and females in the two age categories identified. This is an important result that the relative rise in employment among indigenous people in this age group has not been matched by an improvement in their relative income status. This probably reflects the role of the CDEP scheme in increasing the numbers recorded as employed in the census, but as people are usually paid the equivalent of their social security entitlement under the scheme, the rise in employment has not create an improvement in relative income status.

Summary and conclusion

This chapter describes the economic status of older indigenous people in the labour market. Census data show that they had markedly lower levels of educational attainment than other Australians in this age group and this had important implications for the type of occupations available to those indigenous Australians who were in work. About a third of males and females in employment were working as labourers, a category which accounted for 15 per cent of employment among other Australians over 50 years of age.

Many of the results shown in other labour market comparisons between the indigenous and non-indigenous populations of Australia are also apparent in this comparison of older people. Indigenous males and females over 50 years were less likely to be employed, and more likely to be unemployed or outside the labour force, than their counterparts among other Australians. The fact that indigenous people appear to withdraw from the labour force at an earlier age than other Australians raises the whole issue of the association between poor health status and

the ability to maintain employment. The importance of the public sector as an employer of indigenous labour was also apparent for these older indigenous people. Older indigenous workers were concentrated to a greater extent than other Australians in the industry divisions of public administration and community services. These factors were reflected in their lower median individual incomes.

The evidence presented in this chapter raises some important considerations for the delivery of services to older indigenous Australians. They were more likely to live in large households with lower incomes outside the major urban centres than were older non-indigenous Australians and were therefore likely to face a different set of problems in old age.

CHAPTER 6

SELF-EMPLOYED INDIGENOUS AUSTRALIANS

Self-employment is regarded as an important avenue for social and economic advancement for certain groups in the population. In many countries it is of particular importance for some migrant groups, but even within these groups there are sharp ethnic differences in the rate of self-employment (Rees and Shah 1986; Evans 1989; Borjas 1986; Kidd 1993). Self-employment is one means by which ethnic groups can overcome problems such as language difficulties and unrecognised qualifications. It may also be important as a way of circumventing discrimination in employment. Some Australian evidence suggests that self-employment may be particularly profitable where there are large concentrations of an ethnic group. Members have an advantage in providing goods and services to the group through their knowledge of the relevant language and culture (Evans 1989).

The purpose of this chapter is to describe the characteristics of self-employed indigenous Australians as reported in the census, and to outline some of the major issues highlighted in the literature on indigenous entrepreneurial activity. While much has been written on the need to promote indigenous enterprises, little has been written on the self-employed as a group.

Although indigenous Australians and migrants may encounter similar labour market difficulties, such as language problems and discrimination, according to the census, self-employment is uncommon among indigenous Australians. The Miller Report (1985) commented on the low rate of self-employment among indigenous Australians as recorded in the 1971 and 1981 Censuses. In 1991, the indigenous working-age population had a self-employment rate one-fifth of the rest of the Australian population; 2.2 per cent compared with 11.1 per cent. Census figures, however, show that between 1986 and 1991, there was a greater proportional increase in self-employment among the indigenous population than among other Australians. In 1986, the proportion of the indigenous Australians of working age who were self-employed was one-eighth of that of other Australians.

Small business and self-employment are now regarded as important parts of the economy with specific government policies aimed at promoting these activities. The scope for self-employment differs between industries and occupations reflecting differences in the scale of production, the extent of public ownership and the technologies involved. Among the population in general, self-employment is important in farming activities, the professions (for example doctors, lawyers and accountants), retail trade and construction. The Department of Industry, Technology and Commerce (DITECH), the Department of Employment, Education and Training (DEET) and the Department of Primary Industry and Energy (DPIE) are some Commonwealth agencies running programs to promote small business. There is even a specific program, the Aboriginal Enterprise Incentive Scheme (AEIS) run initially by DEET, with the aim of assisting unemployed indigenous Australians to establish small businesses. In 1990 the scheme had a budget of \$9 million. In July 1992, responsibility for AEIS, along with the community elements of the

Training for Aboriginals Program (TAP), was transferred to the Aboriginal and Torres Strait Islander Commission (ATSIC) (see ATSIC 1994 for a fuller discussion).

A range of programs have also been run by ATSIC and its predecessors which aimed to promote indigenous enterprises. These programs have met with limited success and their role under the AEDP was reduced (for some critical reviews of programs see Jarvie 1990 and Office of Evaluation and Audit (OEA) 1990, 1991). However, following the recommendations of the Royal Commission into Aboriginal Deaths in Custody, the Community Economic Initiatives Scheme has been established for the promotion of indigenous community enterprises. A \$23 million budget will be administered by ATSIC and spent over a five-year period. In addition, ATSIC also administers the Business Funding Scheme for the establishment of commercially viable enterprises and subsidises employment in indigenous enterprises under the Enterprise Employment Assistance scheme (see ATSIC 1994 for fuller discussions of these programs although their success awaits detailed analysis).

The emphasis of this chapter will be on a description of self-employed indigenous Australians as recorded in the 1991 Census and a comparison between this group and two others: indigenous Australians who were wage and salary earners and self-employed other Australians. Two comparison groups have been used as there are two broad questions for analysis here. The first relates to the indigenous population: how do self-employed indigenous Australians compare with indigenous Australian wage and salary earners? This will suggest whether there are any particular niches within the labour market which are more appropriate for self-employed indigenous Australians.

The second question relates to how self-employed indigenous Australians compare with the self-employed in the rest of the population. Such a comparison can be used to suggest areas, occupations or industries, where self-employment of indigenous Australians could be expanded.

This chapter also presents some brief comparisons of self-employed indigenous Australians in 1986 and 1991. The results show a relatively large increase in the number of indigenous self-employed people over this five-year period. The number of self-employed indigenous Australians grew by 100.2 per cent compared with a growth of 30.8 per cent for indigenous wage and salary earners and 15.0 per cent in the number of non-indigenous people in self-employment.¹

Two census categories have been included in the definition of self-employed used here: those who said that in the main job held last week they were 'conducting own business but not employing others' and those who were 'conducting own business and employing others' (question 28 of the census). Both categories have been included in the definition of self-employment used here because the aim is to present a broad picture of the characteristics of all self-employed people. The scale of the business is not a particular focus of this analysis nor is the aim to consider a subsection of the group in greater detail as in some studies (for example, Evans 1989). Sixty-six per cent of the indigenous Australians describing themselves as self-employed in 1991 did not employ anyone in their business.

¹ This differs somewhat from Taylor's (1993^b) estimated growth rate because of slight differences in the definitions used and the use here of sample data rather than the full census count.

The characteristics of self-employed indigenous Australians

Table 6.1 presents data on the age distribution of self-employed indigenous Australians compared with the other major components of the indigenous labour force: the employed and unemployed (unpaid helpers have been omitted as they constitute a very small category); and other self-employed Australians. Indigenous wage and salary earners constituted the major part of the indigenous labour force, with the self-employed only accounting for 4 per cent of the total. This was about a quarter of the share of the self-employed among the rest of the Australian labour force.

TABLE 6.1 THE EMPLOYMENT STATUS OF THE LABOUR FORCE BY AGE CATEGORY AND SEX, 1991
(per cent(a))

Age	Indigenous			Non-indigenous Self-employed
	Wage and salary earners	Unemployed	Self-employed	
<i>Males</i>				
15-19	7.6	6.3	0.1	0.2
20-24	11.5	8.0	0.4	0.6
25-29	10.8	5.8	0.6	1.6
30-34	9.6	4.4	0.8	2.4
35-39	7.8	2.9	0.7	2.7
40-44	6.3	2.0	0.7	3.1
45-49	4.2	1.3	0.4	2.5
50-54	2.8	0.8	0.2	2.0
55-59	1.8	0.5	0.2	1.4
60-64	0.9	0.3	0.1	1.2
<i>Total</i>	63.2	32.3	4.3	17.7
Total number	31,185	15,919	2,102	794,700
<i>Females</i>				
15-19	8.4	7.6	0.2	0.1
20-24	13.0	7.1	0.3	0.4
25-29	11.1	4.5	0.5	1.0
30-34	10.1	3.1	0.7	1.7
35-39	9.0	2.3	0.6	1.8
40-44	7.2	1.8	0.5	1.8
45-49	4.4	1.1	0.3	2.3
50-54	2.7	0.6	0.2	1.7
55-59	1.2	0.3	0.2	1.3
60-64	0.4	0.2	0.1	0.5
<i>Total</i>	67.4	28.5	3.5	11.7
Total number	21,817	9,236	1,130	385,400
<i>Persons</i>				
15-19	7.9	6.8	0.2	0.1
20-24	12.1	7.7	0.3	0.5
25-29	10.9	5.3	0.5	1.3
30-34	9.8	3.9	0.8	2.1
35-39	8.3	2.6	0.7	2.3
40-44	6.6	1.9	0.6	2.8
45-49	4.3	1.2	0.4	2.2
50-54	2.8	0.7	0.2	1.7
55-59	1.6	0.5	0.2	1.2
60-64	0.7	0.2	0.1	0.9
<i>Total</i>	64.9	30.8	4.0	15.1
Total number	53,002	25,155	3,232	1,180,100

(a) The percentages relate respectively to the percentage of the total labour force of each sex and for persons, of the total labour force. The category 'unpaid family helper' has been left out as this group accounted for less than 1 per cent of the labour force.

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

The self-employed were more likely to be male than female but the gap between the sexes was less pronounced for indigenous Australians than among other Australians where the self-employed accounted for 17.7 per cent of the male labour force and 11.7 per cent of the female labour

force. Age also appears to be related to employment status. Self-employed indigenous Australians were, on average, older than wage and salary earners and were concentrated in the 30-44 year age group. This was also true for the non-indigenous self-employed who were mainly between the ages of 30 and 50 years. In the interests of conciseness, the tables which follow will concentrate on the self-employed as a whole and will not present age and sex breakdowns.

The picture of self-employed indigenous Australians which is presented in the census suggests that this group was, in many respects, more like the rest of the Australian population than were indigenous Australians in general. Several reported characteristics support this statement. They were more likely to live in a major urban area than were indigenous wage and salary earners (37 per cent compared with 30.8 per cent) and were more likely to be legally married (64.7 per cent compared with 41.4 per cent). However, on neither of these indicators did the percentages reach those of the non-indigenous self-employed, 53.9 per cent of whom lived in a major urban area and 79.7 per cent of whom were legally married. Self-employed indigenous Australians were reported as having a high proficiency in English; 95 per cent either spoke English as their main language or claimed to speak English 'very well' compared with 89 per cent of indigenous wage and salary earners and 94 per cent of the non-indigenous self-employed.

Tables 6.2 to 6.4 relate to education. Table 6.2 compares age on leaving school for the three groups. Based on this measure of educational attainment, self-employed indigenous Australians had, on average, left school earlier than either indigenous wage and salary earners or self-employed non-indigenous Australians. While 21 per cent of self-employed indigenous people had left school at the age of 17 years or older, 26 per cent of indigenous wage and salary earners and 36 per cent self-employed non-indigenous people were in this category. The proportion who had never attended school was similar for both indigenous groups but much higher than for the self-employed non-indigenous groups.

TABLE 6.2 AGE ON LEAVING SCHOOL BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 15-64 YEARS IN 1991
(per cent)

Age	Indigenous		Non-indigenous Self-employed (3)
	Wage and salary earners (1)	Self-employed (2)	
Less than age 15 years	15.0	18.2	12.7
15	29.0	32.8	26.5
16	27.1	25.2	23.8
17	15.8	12.7	19.2
18	6.7	5.2	10.3
19+	3.2	2.9	6.7
Still at school	1.1	0.7	0.2
Never attended school	2.1	2.2	0.6
Total (numbers)	49,485	303,900	1,180,000
Ratios		(2)/(1)	(2)/(3)
Less than age 15 years		1.21	1.43
15		1.13	1.24
16		0.93	1.06
17		0.80	0.66
18		0.78	0.50
19+		0.91	0.43
Still at school		0.64	3.50
Never attended school		1.05	3.67

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

Table 6.3 shows that self-employed indigenous Australians were substantially more likely to hold a qualification than were indigenous wage and salary earners. The 'no qualifications' category was 21 per cent higher for wage and salary earners compared with self-employed indigenous Australians. Twenty-six per cent of self-employed indigenous Australians held a certificate qualification, over twice the proportion among indigenous wage and salary earners and similar to the proportion in the non-indigenous self-employed population. In comparison with the self-employed non-indigenous population, a much smaller proportion of self-employed indigenous Australians held university degrees or diplomas: 5.1 per cent compared with 14.5 per cent. This difference is reflected in the much larger percentage of the non-indigenous self-employed in the professions reported in the occupational distribution considered below (see Table 6.5). Self-employed indigenous Australians were less likely to hold a qualification than were other self-employed Australians.

TABLE 6.3 QUALIFICATIONS BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 15-64 YEARS IN 1991
(per cent)

Age	Indigenous		Non-indigenous Self-employed (3)
	Wage and salary earners (1)	Self-employed (2)	
University degree	2.0	2.9	10.4
Diploma	2.3	2.2	4.1
Trade or other certificate(a)	12.8	26.2	29.8
No qualifications	82.8	68.6	55.7
Total (numbers)	47,828	3,231	1,086,000
Ratios	(2)/(1)	(2)/(3)	
University degree		1.45	0.28
Diploma		0.96	0.54
Trade or other certificatea		2.05	0.88
No qualifications		0.83	1.23

(a) This category also includes qualifications which were not classified according to the level.

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

Table 6.4 shows the broad field in which qualifications were held. The main two fields in which self-employed indigenous Australians held qualifications were in engineering and architecture and construction and it is the large differences here that account for most of the qualification gap between indigenous wage and salary earners and the indigenous self-employed. These two fields of qualifications were also particularly important among other self-employed Australians.

TABLE 6.4 FIELD OF QUALIFICATION BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 15-64 YEARS IN 1991
(per cent)

Age	Indigenous		Non-indigenous Self-employed (3)
	Wage and salary earners (1)	Self-employed (2)	
Business and administration	3.0	3.0	6.5
Health	2.1	2.0	4.8
Education	2.2	1.7	2.2
Society and culture, Arts	2.5	3.1	4.1
Natural and physical science	0.4	0.7	1.4
Engineering	4.5	10.2	13.2
Architecture and construction	1.9	9.0	8.8
Agriculture	0.4	0.9	2.0
Miscellaneous & inadequately described	2.6	4.0	4.2
No qualifications	80.4	65.4	52.8
Total (numbers)	49,286	3,055	1,086,000
Ratios	(2)/(1)	(2)/(3)	
Business and administration	1.0	0.46	
Health	0.95	0.42	
Education	0.77	0.77	
Society and culture, Arts	1.24	0.76	
Natural and physical science	1.75	0.50	
Engineering	2.27	0.77	
Architecture and construction	4.74	1.02	
Agriculture	2.25	0.45	
Miscellaneous & inadequately described	1.54	0.95	
No qualifications	0.81	1.24	

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

Occupation and industry of employment data presented in Tables 6.5 and 6.6 reflected the educational background of workers. The large group of self-employed indigenous Australians with certificate qualifications were occupied as tradespersons, mainly in the building and vehicle industries. The other large occupational group, apart from tradespersons, was managers and administrators. It is perhaps not surprising to find that about one-quarter of self-employed indigenous Australians were classified as managers and administrators compared with only 3.7 per cent of indigenous wage and salary earners (see Table 6.5). This, however, was a smaller proportion than the 32.4 per cent of the non-indigenous self-employed who were classified as managers and administrators. In this group the major occupations were farmers and farm managers. A smaller proportion of the indigenous self-employed were classified as professionals compared with both indigenous wage and salary earners and the non-indigenous self-employed. Most of the indigenous wage and salary earning professionals were business professionals, school teachers and social professionals while the largest group of self-employed indigenous professionals were in the 'artists and related' category.

TABLE 6.5 OCCUPATION BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS AGED 15-64 YEARS IN 1991

<i>Age</i>	<i>Indigenous</i>		<i>Non-indigenous Self-employed (3)</i>
	<i>Wage and salary earners (1)</i>	<i>Self-employed (2)</i>	
Managers and administrators	3.7	23.5	32.4
Professionals	8.0	7.5	12.0
Para-professionals	8.6	2.7	2.0
Tradespersons	13.8	22.8	20.0
Clerks	15.1	8.3	7.9
Salespersons, etc.	11.0	10.9	12.3
Plant and machinery operators and drivers	9.7	10.1	6.4
Labourers	30.0	14.1	7.0
Total (numbers)	46,627	2,743	1,108,700
Ratio		(2)/(1)	(2)/(3)
Managers and administrators		6.35	0.73
Professionals		0.94	0.63
Para-professionals		0.31	1.35
Tradespersons		1.65	1.14
Clerks		0.55	1.05
Salespersons, etc.		0.99	0.89
Plant and machinery operators and drivers		1.04	1.58
Labourers		0.47	2.01
Correlation coefficient r (cols 1 and 2, cols 2 and 3)	0.01		0.86

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

The difference between self-employed indigenous and non-indigenous Australians was that non-indigenous Australians work in the more skilled occupations. This was offset at the other end of the skill spectrum: while 13.4 per cent of the non-indigenous self-employed were in the less skilled occupations of plant and machinery operators and labourers, 24.2 per cent of the indigenous self-employed were in these groups. This compared with the 40 per cent of indigenous wage and salary earners who were in these groups. The major occupations in these categories for the self-employed were 'road/rail transport drivers', 'miscellaneous labourers' and 'cleaners'. Further information would be necessary to establish what work self-employed 'miscellaneous labourers' were actually engaged in.

The distribution of self-employed indigenous Australians across the twelve major industry groups differed markedly from the distribution of wage and salary earners reflecting differences between industries in the technologies employed, the scale of production and the extent of public ownership (see Table 6.6). Over half of self-employed indigenous Australians were working in agriculture, construction and the wholesale and retail trades. However, these three industries only accounted for 20.1 per cent of wage and salary employment. Community services, which was the major employer of indigenous wage and salary earners (37 per cent of total employment) accounted for only 7.8 per cent of employment amongst self-employed indigenous Australians.

TABLE 6.6 INDUSTRY BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS, 1991

Age	Indigenous		Non-indigenous Self-employed (3)
	Wage and salary earners (1)	Self-employed (2)	
Agriculture	4.8	13.9	14.7
Mining	1.8	0.9	0.4
Manufacturing	8.5	7.3	8.7
Electricity, gas, water	1.2	0.0	0.2
Construction	4.7	18.9	15.3
Wholesale, retail trade	10.6	22.7	25.6
Transport, storage	4.2	7.7	5.5
Communications	1.5	0.4	0.1
Finance, property etc.	4.0	8.7	14.0
Public administration	15.0	1.7	0.3
Community services	37.0	7.8	5.7
Recreation, personal services	6.2	9.2	9.5
Total (number)	53,002	3,228	1,079,200
Ratio		(2)/(1)	(2)/(3)
Agriculture		2.90	0.95
Mining		0.56	2.25
Manufacturing		0.86	0.84
Electricity, gas, water		na	na
Construction		4.02	1.24
Wholesale, retail trade		2.14	0.89
Transport, storage		1.83	1.40
Communications		0.27	4.00
Finance, property etc.		2.18	0.62
Public administration		0.11	5.67
Community services		0.21	1.37
Recreation, personal services		1.48	0.97
Correlation coefficient r (cols 1 and 2, cols 2 and 3)	0.10		0.95

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

The industry distribution of employment of self-employed indigenous Australians was much closer to the distribution of other self-employed Australians (the correlation coefficient $r = 0.95$). Wholesale and retail trade, construction and agriculture were the main industries of employment for both self-employed groups. One notable difference, however, was the smaller proportion of self-employed indigenous Australians in the finance and property industry.

When occupation of employment within an industry was also considered, there were some significant differences between self-employed indigenous Australians and others. The largest differences in occupational status within industries were in the service industries (particularly finance and community services) and in agriculture. In agriculture, 69 per cent of self-employed indigenous Australians were managers and administrators compared with 88 per cent of other self-employed Australians in this industry. This difference was offset by higher proportions of the indigenous self-employed in the tradesmen and labourers categories. In finance and community services the proportion of the non-indigenous self-employed who were classified as professionals was roughly double that of indigenous Australians. These differences were offset by a larger share of para-professionals, labourers and sales workers among the indigenous self-employed in these industries. In summary, while indigenous self-employed people were employed in similar proportions across the major industry groups to their counterparts in the rest of the Australian community, they tended to be employed in the less skilled occupations in these industries.

There were some interesting differences between the employment patterns of indigenous wage and salary earners and the self-employed across section-of-State categories (see Daly 1994^b for a fuller discussion of these results). As already shown in Table 6.6, the community service industry was a larger employer of indigenous wage and salary earners than of the self-employed but this was particularly pronounced in the rural areas. Agriculture was the major industry of employment for self-employed indigenous Australians in these areas. In urban areas, wholesale and retail trades and construction were the major employers of self-employed indigenous Australians. In comparison with the non-indigenous self-employed, this group was relatively under-represented in wholesale and retail trades and in the finance industry in the major urban centres.

In the interests of completeness, Table 6.7 presents the sector of employment for the indigenous self-employed and the two comparison groups. It is not surprising to see that self-employment was very much concentrated in the private sector with only 2.6 per cent of self-employed indigenous Australians in the government sector. This compared with the 41 per cent of indigenous wage and salary earners who worked there. Government employment provided an even smaller share, less than 1 per cent, of employment for other self-employed Australians.

TABLE 6.7 GOVERNMENT AND PRIVATE SECTOR EMPLOYMENT BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS, 1991

Age	Indigenous		Non-indigenous Self-employed (3)
	Wage and salary earners (1)	Self-employed (2)	
Government			
Australian	9.7	0.6	0.1
State	19.8	1.4	0.2
Local	11.3	0.6	0.0
Private	59.2	97.4	99.6
Total (numbers)	53,002	3,233	1,180,200
Ratio		(2)/(1)	(2)/(3)
Government			
Australian		0.06	6.00
State		0.07	7.00
Local		0.05	na
Private		1.64	0.98

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

These differences between indigenous wage and salary earners and the self-employed might be expected to be reflected in income differences. Measurement of incomes of self-employed people, however, is particularly difficult because the separation of expenditure and income into current and investment components is complex. For example, a farmer may have a low annual disposable income because he has invested in farm improvements which will yield a capital gain on the sale of the farm at some point in the future. His current income therefore does not fully reflect his command over goods and services. Complications such as this make a comparison of income between wage and salary earners and the self-employed difficult.²

² Chiswick (1983) presents a methodology based on a human capital earnings function, for the decomposition of income for the self-employed into its labour and non-labour components.

The figures presented in Table 6.8 show that median annual income was almost identical for the two groups of indigenous Australians. Given the presumption that the income of self-employed indigenous Australians may be understated, these results show that this group is not worse off in terms of money income than other indigenous Australians.

A comparison between the indigenous and non-indigenous self-employed is perhaps less problematic as the difficulty of distinguishing individual income from that of the business is present for both. The median income of self-employed indigenous Australians was 82 per cent of that for self-employed non-indigenous Australians. This is a higher ratio than for employed indigenous Australians compared with other employed Australians in general.

TABLE 6.8 INCOME DISTRIBUTION BY EMPLOYMENT STATUS FOR INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS, 1991

Age	Indigenous		Non-indigenous Self-employed (3)
	Wage and salary earners (1)	Self-employed (2)	
Q1(a)	9,628	8,819	11,843
Median(b)	16,711	16,338	19,954
Q3(c)	23,217	20,295	31,144
Ratio		(2)/(1)	(2)/(3)
Q1(a)		0.92	0.74
Median(b)		0.98	0.82
Q3(c)		0.87	0.65

(a) Q1, the first quartile, shows the income level which divides the income distribution so that 25 per cent of individuals had incomes below this level and 75 per cent above this level. (b) The median divides the income distribution in half. (c) Q3, the third quartile, divides the income distribution so that 75 per cent of individuals had an income below this level and 25 per cent above.

Source: 1991 Census full Aboriginal sub-file and 1 per cent ABS sample.

The changing characteristics of self-employed indigenous Australians, 1986-91

Although remaining a small group within the indigenous population, there have been significant increases in the number of indigenous Australians recorded as self-employed in the census. This section will summarise some of the changes which have taken place between 1986 and 1991 (see Daly 1994^b for a fuller discussion of the changes). Data from the 1986 Census which are used as a base for these comparisons, are reported more fully in Daly (1993^c).

The number of indigenous Australians reported to be self-employed in the census doubled between 1986 and 1991 to 3,232 people, a growth rate well in excess of the growth in self-employment among other Australians. Most of this growth in the number of indigenous self-employed took place among those who had left school relatively young, aged 15-16 years, in contrast to the growth among the non-indigenous self-employed concentrated among those who had left school aged 17 years and over. These differences in educational background were reflected in the major occupational growth areas. The largest growth for self employed indigenous Australians took place among managers and administrators and tradespersons while the growing occupational groups for the non-indigenous self-employed were professionals and salespersons. In terms of industry of employment, the major growth areas for self-employed indigenous Australians were wholesale and retail trade, community services and construction while finance and wholesale and retail trade accounted for most of the growth in employment for the non-indigenous self-employed. Finally, there is some evidence of a declining ratio of median indigenous self-employed income to that of

**Some possible explanations
of the low level of
self-employment among
indigenous Australians**

other self-employed Australians: from 92 per cent in 1986 to 82 per cent in 1991. This perhaps reflects the more rapid growth of professional employment among other self-employed Australians than among indigenous Australians.

The census data reported here show that for indigenous Australians, self-employment is a minor but growing activity. Most indigenous Australians in employment were wage and salary earners. There are, however, a number of reasons why these census statistics under-represent the extent of self-employment and entrepreneurial activity among indigenous Australians.

Firstly, there is the problem that indigenous artists and hunter-gatherers may not classify themselves or be recognised as self-employed under existing definitions. The Aboriginal Arts and Crafts Review (Altman 1989) estimated that there were 4,838 indigenous artists in Australia in 1987-88, but the 1986 Census showed only 59 indigenous Australians engaged in visual arts and crafts occupations. In 1991, 82 indigenous Australians were recorded as self-employed 'artists and related professionals' and a further 345 as wage and salary earners. These figures remain well below the estimated number of indigenous artists.

Similarly, hunter-gatherers are unlikely to be included among the self-employed as they could not be described as 'conducting their own business' even though they are working to produce non-monetary income for themselves. Altman and Taylor (1989) estimated that about 10 per cent of the indigenous population lived at outstations where some hunting and gathering activities were undertaken.³ The inclusion of these groups would increase the importance of self-employment among indigenous Australians. However, in order to compare this figure with that of the total Australian population, it would be necessary to make a similar adjustment for other Australians who earned income from similar sources.⁴ It seems likely that the proportion of indigenous Australians in a more broadly defined category of self-employment would remain below that of other Australians.⁵

It is questionable, however, whether it is appropriate to think of these artists and hunter-gatherers as self-employed in the sense of being self-supporting and independent of government transfers. The majority of the artists surveyed for the Arts and Crafts Review earned less than \$1,000 a year from these activities; this income was usually a supplement to income derived from other sources. Similarly, hunting and gathering activities produced only part of the income of people living at outstations (Altman 1987^b; Altman and Taylor 1989; Fisk 1985) as many adults received income transfers from government. The use of a broader definition of self-employment to include these groups would conceal important characteristics of the individuals concerned. For example, the income generated by most indigenous artists was not sufficient to make them economically independent; to describe them as self-employed would suggest otherwise. The need for income support from sources other than arts and crafts production and hunting and gathering would remain if

³ See Altman and Allen (1992^a) for a recent survey of studies of the contribution of subsistence activities to the income of indigenous Australians living in remote Australia.

⁴ See Altman and Allen (1992^b) for a discussion of the issues relating to the inclusion of the informal sector in official statistics.

⁵ It has been suggested by a referee of an earlier version of this chapter that unemployed indigenous Australians in some communities may identify themselves as self-employed. If this is the case, indigenous self-employment may be overstated by the census data. Further research is required to quantify the importance of this factor.

incomes of indigenous Australians were not to fall even further behind those of other Australians.

One of the reasons for low levels of self-employment among indigenous Australians may be the government agencies' preference for funding of community enterprises rather than individual ones. Arthur (1992) and Young (1988) show that in Aboriginal and Torres Strait Islander policy there has been considerable emphasis placed on the community in the establishment of enterprises. This emphasis may in part explain or contribute to the low rate of self-employment among indigenous Australians.

Other factors may also be important in explaining differential rates of self-employment and the low rate of success of indigenous community enterprises (see Altman 1987^a, 1988; Office of Evaluation and Audit 1991; Jarvie 1990; Arthur 1992; Young 1987, 1988 for fuller discussions of these issues). An obvious limiting factor is the lower level of education, labour market experience and management skills among indigenous Australians compared with the rest of the Australian population. For example, Young (1987) noted that indigenous enterprises such as the community store, were often run by European managers because there was no indigenous member of the community with the necessary commercial experience. Altman (1987^a, 1988) also emphasised the lack of managerial skills as an inhibiting factor in the development of indigenous tourist enterprises.

A further argument attributes these differences, in part, to an absence of a 'culture of entrepreneurship' among indigenous Australians (Altman 1988; Young 1987, 1988). Young emphasises the importance of kinship ties and authority structures based on age and traditional knowledge as barriers to profit maximising behaviour in the management of commercial enterprises. Furthermore, in remote Australia, traditional owners of land may have particular rights of control over all enterprises conducted on this land regardless of their ability or experience in running enterprises (Ellana et al. 1988).

Access to the necessary capital to establish an enterprise is another factor limiting the ability of poor indigenous Australians to establish their own businesses. Altman (1988) noted that even where there were significant amounts of capital available from royalty payments, there was a tension between spending the money now on needy members of the community or investing it for the future.

A final explanation of the lack of entrepreneurial success among indigenous Australians is the relatively large proportion living in remote areas where transport costs and a low level of local demand inhibit the growth of small business. Although location of residence may reduce the scope for the establishment of a wide range of small businesses, it also creates opportunities based on these locations. Altman (1989) estimated that half of the indigenous artists in Australia lived in the Northern Territory, where their location offers them opportunities for sale of their work to tourists.

The relative importance of all of these factors in explaining the low levels of self-employment among indigenous Australians remains unquantified and census data are not conducive to a further investigation of these issues.

Conclusion

The role of self-employment and small business in providing opportunities for disadvantaged groups to develop a niche in the labour market has been emphasised in a number of studies of the economic status of migrants in various countries. Many of the problems faced by migrants such as language difficulties and discrimination, may also exist for indigenous Australians entering the labour market, yet self-employment remains a minor, although growing, activity for indigenous Australians. According to 1991 Census figures, the indigenous working-age population had a self-employment rate which was one-fifth of that of the rest of the Australian population; 2.2 per cent compared with 11.1 per cent. There appear to be a number of possible explanations of this result.

A first possibility is that there are a large number of indigenous Australians working as artists and hunter-gatherers who either do not classify themselves, or are not recognised, as self-employed. These people generate income from these activities and as such make an important contribution to their own wellbeing. It is, however, important to recognise that the majority of this group remain dependent on income transfers from government. While it would be misleading to describe this group as economically inactive or totally welfare dependent, it seems inappropriate to classify them as self-employed in the sense that they are economically independent of government income support.

The emphasis of government funding on community enterprises may be another factor contributing to the lower rate of self-employment among indigenous Australians, especially in urban settings where there are no communities. Among the other reasons which have been put forward to explain the lack of entrepreneurial success among indigenous Australians is a lack of education and training in the organisation of viable commercial enterprises. Shortages of capital and the limited opportunities related to remote locations of residence may also contribute to low levels of self-employment. The role of traditional value systems which do not fit well with the efficient organisation of a viable commercial enterprise has also been emphasised. Some of these factors may have positive as well as negative aspects. Indigenous Australians living traditional lifestyles in remote locations may be considered to have unique opportunities for the development of small business.

Two comparison groups have been used in this chapter to present a picture of self-employed indigenous Australians. The first was a comparison with indigenous wage and salary earners. The major differences between these two groups of employed indigenous Australians were in the occupation and industry of employment. Self-employed indigenous Australians were more likely to be employed as tradespersons and to work in the private sector (agriculture, construction and wholesale and retail trade) than were indigenous wage and salary earners. They may therefore offer important opportunities for the expansion of employment of indigenous Australians in these industries and for a reduction of indigenous dependence on public sector employment and welfare.

In comparison with other self-employed Australians, self-employed indigenous Australians had spent less time at school and were less likely to have a formal qualification. They were mainly employed in trade occupations and in the lower-skilled occupations of plant and machinery operators and labourers. Self-employed indigenous Australians were under-represented among managers and administrators and professionals compared with other self-employed Australians. Raising educational

attainment is likely to increase the number of indigenous Australians in these groups, although this is a long term process requiring not only human capital but physical capital inputs.

Self-employment has been recognised as a means by which disadvantaged groups can raise their economic status. However, there are other ways of achieving this end. In the case of indigenous Australians, community enterprises may offer access to employment and income for this disadvantaged group in the way that self-employment has for some migrant groups. If this is so, the low levels of self-employment among indigenous Australians may not be a particular problem but rather reflect features of indigenous culture. An important difference between privately owned small business and indigenous community enterprises arises when community enterprises remain dependent on public money and political support for viability. The success of indigenous commercial enterprises, whether run by individuals or communities, will depend amongst other things, on the development of the appropriate management skills and rewards for those working in enterprises.

CHAPTER 7

CONCLUSION

The aim of this study has been to describe the position of indigenous Australians in the labour market, to consider some of the possible causes of their relatively poor labour market performance, and to describe in more detail, some components of the indigenous labour force. The data used in this exercise have been from the Census of Population and Housing, conducted every five years by the ABS. While other data sources provide a valuable source of information on indigenous people in particular locations and at particular times, the census is the only comprehensive source of information on indigenous people which enables comparisons with other Australians. Despite some of the problems associated with the use of census data such as the limited validity of some of the concepts when applied to indigenous people living a more traditional hunter-gatherer lifestyle (Smith 1994), the census data provide a framework for comparing the position of indigenous Australians with that of other Australians on a range of standard social indicators. This is not to deny the importance of many features of indigenous life which are not covered by the census but to focus on a part of it where comparisons with other Australians are possible.

This chapter begins by summarising the major results of the study before presenting a discussion of some of the implications of these findings.

Summary of results

1991 Census results

The census evidence presented here shows that in 1991, indigenous Australians were less likely to be employed and over twice as likely to be unemployed than other Australians. Almost half of indigenous adults aged 15 years and over were not in the labour force compared with 37 per cent of the total Australian population. This difference was even more pronounced when the differences in the age structure of the two groups were taken into account. The indigenous population is, on average, younger than other Australians and among adults of working age, almost half of indigenous people were not in the labour force compared with 28 per cent of other Australians (Taylor 1993^a).

There were also significant differences between indigenous and other Australians in the types of employment activities. Indigenous people in employment were more likely to be wage and salary earners than to be self-employed. In 1991, the indigenous working-aged population had a self-employment rate which was one-fifth of that of other Australians. Those indigenous Australians in employment were more likely to be working in the less skilled occupations of plant and machinery operators and labourers than were other Australians. Forty per cent of the indigenous employed were working in these occupations compared with 21 per cent of other employed Australians in 1991. There were also important differences in the range of industries in which indigenous Australians found employment. Forty-four per cent of the indigenous Australians in employment worked in two industries, public administration and community services which accounted for a smaller 23 per cent of the employment of other Australians. It is not surprising, given this result, that the private sector accounted for a smaller share of indigenous than non-indigenous employment.

An important determinant of labour force status and occupation is educational attainment. In 1991, indigenous Australians were less likely to have stayed at school until the age of 17 years than were other Australians and they were less likely to hold a post-secondary qualification. While 21 per cent of adult indigenous Australians had stayed at school until the age of 17 years, 36 per cent of other Australian adults were in this category. Over 90 per cent of indigenous Australians held no post-secondary qualification.

Chapters 2 and 3 test, in the context of a formal statistical model, the implications of lower educational attainment for the labour force status and income of indigenous Australians. These models can be used to estimate the effect of Aboriginality on labour force status, holding everything else constant. They therefore can address the question of whether the poor labour market outcomes for indigenous Australians can be attributed to a lack of standard characteristics valued in the labour market, for example education and labour market experience, or whether there are particular characteristics associated with Aboriginality which are an important source of different labour market outcomes for otherwise similar indigenous and non-indigenous individuals. These effects may arise because of differences on the demand-side of the labour market, for example discrimination against indigenous people or differences on the supply-side, for example indigenous people may be unwilling to leave a particular place in search of employment.

The results of this analysis of the determinants of labour force status show significant differences between indigenous and non-indigenous Australians (see chapter 2). Aboriginality substantially reduced the probability of being in full or part-time employment and increased the probability of being unemployed or not in the labour force for both males and females, holding everything else constant. In other words, the poor labour market outcomes of indigenous Australians could not be attributed solely to their lack of standard characteristics such as education, although additional education increased the probability of employment for both indigenous and non-indigenous Australians. This result of the importance of Aboriginality in determining labour force outcomes could reflect either demand or supply-side preferences for employment of indigenous people.

Another important result from this analysis was the effect of location of residence on the labour force status of indigenous Australians. While the labour force status of other Australians did not vary greatly according to where they lived, it had a substantial and perhaps surprising effect on the labour force status of indigenous Australians. Indigenous people were less likely to be unemployed and more likely to be working part-time if they lived in a rural rather than an urban area, a point which will be discussed further below in considering aspects of the CDEP scheme.

While Aboriginality was a major determinant of labour force status, it was less important as a determinant of income for the select group in full-time employment (see chapter 3). The results presented here emphasise the importance of differences in endowments of education, labour force experience and other human capital attributes in explaining the lower average income of indigenous Australians in full-time employment compared with other Australians. Once again, location of residence had a greater effect on indigenous than non-indigenous incomes. Indigenous Australians living in a rural location had substantially lower incomes than their counterparts in urban areas or than other Australians in these locations. This difference may offer some indication of the

monetary value that indigenous people place on living in these locations rather than moving to more highly paid employment elsewhere.

Many of the differences highlighted in the general discussion of indigenous labour force status were apparent for both the 15–24 year old age group (chapter 4) and those over 50 years of age (chapter 5). Indigenous Australians had lower levels of educational attainment than other Australians. They were less likely to be in employment and those who were, were in the lower skilled occupations and concentrated in public administration, community services and for the younger people, wholesale and retail trade. There are however, some interesting comparisons to be made between younger and older indigenous Australians which offer some indication of the changes which have taken place between the generations.

Perhaps the most significant change, apparent also in the data on educational attainment presented in chapter 1, are the differences between young and older indigenous people in the amount of schooling received. Among those aged 65 years and over, 32 per cent had not attended school but this had fallen to 1 per cent among the 15–19 year olds. Forty-three per cent of those aged 65 years and over had left school before the age of 15 years compared with 10 per cent of the 15–19 year olds. This contrast shows a substantial improvement in the access of indigenous Australians to schooling. However, the lack of post-secondary qualifications remains. Ninety-five per cent of those aged 50 years and over had no post-secondary qualification compared with 90 per cent of 20–24 year olds.

A superficial comparison of the employment/population ratios does not suggest that these differences in educational attainment have been associated with higher employment for young compared with older indigenous people. Similar proportions of 15–24 year olds and 50–64 year olds were in employment and the unemployment rate was over twice as high among 15–24 year olds. These differences may reflect lifecycle effects, for example older people are more likely to be on pensions and considered outside the labour force than are young people, and unemployment is typically higher for the young new entrants to the labour market. A more systematic analysis of the data would be required to isolate the effect of educational differences on the outcomes.

There were some differences in the occupational distribution of employment for young and older indigenous people. Almost half the 50–64 year olds were employed in the two low-skilled categories of plant and machinery operators and labourers compared with 36 per cent of the 15–24 year olds in employment. A larger proportion of young people were in the occupations of salespersons, clerks and tradespersons but they were less likely to be employed as managers and administrators and professionals, perhaps reflecting the fact that they were at the beginning of working life. The lower share of labouring employment and the greater share of employment as clerks and salespersons was particularly marked for young compared to older females.

Community services was the major industry of employment for both the 15–24 year olds and the 50–64 year olds, although retail and wholesale trade was relatively more important for young workers and transport and storage for older workers. Employment in the government sector was more important for older than younger indigenous workers. In summary these comparisons show some evidence of generational changes,

particularly in educational attainment and the occupation of those in employment.

The final component of the indigenous labour force which was described in detail in chapter 6 is the self-employed. This group is a small but growing part of the indigenous labour force, accounting for 2.2 per cent of the working-age population in 1991. They may provide an important basis for the expansion of employment opportunities for indigenous people outside the government-funded sector. In comparison with indigenous wage and salary earners, they were more likely to be employed as tradespersons and to work in the private sector (agriculture, construction and wholesale and retail trade). However, in comparison to the non-indigenous self employed, they were concentrated in the less-skilled occupations and were under-represented among managers and administrators and professionals. Rising educational attainment is likely to increase the number of indigenous Australians in these occupations although it can be expected to be a long- term process.

The reason for the focus of attention on labour force status and the types of employment is the association between labour force status and money income. Employment is the major source of income for most Australians and without it, income from welfare provides a minimum standard of living below that of those in full-time employment. On all the indicators reported here, indigenous Australians fared less well than other Australians; they were less likely to be in employment and those who were employed were concentrated in less skilled jobs. These differences were reflected in incomes. In 1991, the median income of an indigenous person was 63 per cent of that of a non-indigenous Australian. The only groups where indigenous Australians fared relatively well were those where employment income was not important, for example those aged 65 years and over and the 15-19 age group. These results illustrate once again, the proposition that poor labour force outcomes are associated with relatively low incomes.

The 1971-91 change

The summary of the earlier section focuses on the results derived from the 1991 Census and provides a snapshot of the position of indigenous Australians in that year, but chapter 1 used data from all the censuses since 1971 to consider the changes which have taken place over time in the position of indigenous Australians in the labour market. There have been some important changes over this period and the outcomes have been different for males and females.

One significant development over this period is the rising level of educational attainment of indigenous Australians, although it remained below that of other Australians. In 1976, 14 per cent of indigenous adults had not attended school, but this fell to 5 per cent in 1991. There was also some increase in the proportion of indigenous people with post-secondary qualifications, but the share without these qualifications remained 32 per cent higher than among other Australians. Although the results show an improvement in the access of indigenous people to schooling, there has also been a substantial growth in education retention rates among the non-indigenous population and the evidence from the census does not suggest that the improvements for indigenous people have been sufficient to close the gap between them and other Australians.

There were also some major changes in the labour force status of indigenous Australians. Between 1971 and 1986, the share of the adult indigenous population who were employed fell from 41 per cent to

31 per cent and there was a four-fold increase in the proportion of indigenous people who were unemployed. This trend was reversed between 1986 and 1991 with some increase in employment and decrease in unemployment. The outcomes were, however, quite different for males and females. There was a dramatic decline in the employment/population ratio for males over the 1971-86 period followed by some improvement between 1986 and 1991. In contrast, an increasing proportion of indigenous females were in employment in 1991 compared with 1971.

For those indigenous people in employment, there have been some substantial changes in the types of work. The public sector played an increasing role in the employment of indigenous Australians. While the share of total Australian employment accounted for by government fell by 9 per cent between 1976 and 1991, the share of indigenous people employed by government rose by 12 per cent. This change was also apparent in the industry of employment data. In 1971, over half the indigenous people in employment were working in agriculture and community services, but in 1991 agriculture had been replaced by public administration and wholesale and retail trade as the major employers of indigenous labour. It was only possible to consider occupational changes between 1986 and 1991 and there is some evidence of a shift of indigenous employment to more skilled occupations.

These labour market changes and changes in the access of indigenous people to the social security system have had implications for indigenous incomes (see Altman and Sanders 1991 and Daly and Hawke 1994^a for further discussion of these changes in social security arrangements). The decline in indigenous male employment resulted in a 29 per cent reduction in the real median income between 1976 and 1991. In contrast, rising female employment, and the incorporation of indigenous Australians in the welfare system have led to a 78 per cent increase in the real median income of indigenous females.

The continuing economic disadvantage of indigenous Australians highlighted in these census data raise a number of issues for policy formulation. Some of these will be the focus of the following section.

Some issues for discussion

The two major components of the Commonwealth government's policy toward indigenous Australians are the AEP and the AEDP. The aim of the AEP is to promote educational opportunities for indigenous Australians and the AEDP has the goals of raising indigenous employment and reducing indigenous welfare dependence. They have both been recently reviewed and options for change and improvement considered. Given the level of the disadvantage of indigenous Australians, any policies aimed at raising their economic status must be long term to be effective and require the co-operation of State and local governments. General economic conditions will also play an important role in the outcomes.

One of the major instruments of the AEDP is the CDEP scheme which offers indigenous people the opportunity to work on a part-time basis for their social security entitlement in community-based projects. The results presented here suggest a number of implications of the operation of the CDEP scheme.

The evidence reported here would support the hypothesis that government policies to create employment for indigenous people have had some effect (see also Taylor 1993^a). Given the ABS definition of participation in the

CDEP scheme as employment, the expansion of the scheme under the AEDP has created a form of employment for indigenous people at a time when other Australians have been losing their jobs. This conclusion raises the issue of whether people working on a part-time basis for the equivalent of their social security entitlement should be included among the employed. In some communities, participants are only paid if they report for work and many of the jobs performed are comparable to those undertaken by other employed Australians; for example, garbage collection, road maintenance, and assistance in schools and hospitals (see Smith 1994 for a description of activities undertaken under the Port Lincoln CDEP scheme). In other communities, there is no requirement to work, and the activities of these participants more closely correspond to those of other unemployed Australians. These two extremes illustrate the fact that it is not easy to classify activity under the CDEP scheme into the conventional labour force categories. A separate identifier for those participating in the CDEP scheme and other government labour market programs would be useful in data on labour force participation.

A major goal of the AEP has been to improve the access of indigenous people to education. The rising level of education provides one mechanism by which indigenous incomes may be increased in the longer term, especially in locations where there is access to a mainstream labour market. Existing evidence based on cross-sectional data, shows that those with higher levels of education, on average, have a higher probability of being in employment and achieving a higher income. If these relationships are sustained in the future, the rising indigenous retention rates at educational institutions should have positive implications for both indigenous employment status and income levels. However, if relative levels of educational attainment are a critical determinant of employment status, not just the absolute level, raising the educational status of indigenous Australians may not be enough when educational status is rising among other Australians. If there is to be any catching up with the rest of the community, then indigenous Australians must increase their level of educational attainment even faster than that of other Australians.

A further issue related to education and training is the relationship between the AEDP and the AEP. There is some danger of a conflict between the incentives offered under AEDP employment programs (eg the CDEP scheme) and the AEP programs to promote school retention. The offer of part-time employment within the community under the CDEP scheme may discourage individuals from pursuing further education. While not wishing to under-estimate the wider social benefits which may arise from this choice, it may have important implications for an individual's future income potential and for the skill-base within a community. This example raises fundamental issues about the inter-relationship between the two policies.

Levels of educational achievement also have implications for the range of employment opportunities available to indigenous people. The concentration of indigenous people in unskilled occupations is likely to have negative implications for the future of indigenous employment as these types of jobs become scarcer throughout the economy. The employment of indigenous people is also concentrated in particular industries where government funding is important. While this may, to some extent, protect indigenous people from cyclical changes in the state of the economy, it leaves them vulnerable to any major changes in government policy. The small but growing group of self-employed indigenous Australians could provide an important basis for the expansion

of indigenous employment opportunities outside the government-funded sector.

The geographical distribution of indigenous Australians and the fact that it differs markedly from the distribution of other Australians is another important issue for policy. The results presented here show that location of residence has important effects on indigenous labour force status and income from employment which differ from the effects on other Australians. Living in remote and rural Australia may reduce employment opportunities for the third of indigenous people who live there. These locations, however, also have particular advantages, for example access to areas where subsistence from hunting and gathering is possible and the opportunity for tourist-related employment. Although it has proved difficult to foster mainstream employment opportunities for indigenous Australians in these areas, there are a range of possibilities which could usefully be developed (see for example Altman 1988). Evidence suggests that indigenous Australians are less likely to migrate to employment (Taylor 1991, Taylor 1992^d) and that their migration patterns are far more localised than those of other Australians (Taylor and Bell 1994). These results suggest that the problems associated with the creation of employment in rural Australia will not disappear through migration out of these areas.

One final issue for discussion is the different employment and income results for indigenous males and females. Over this period, indigenous females have fared much better than their male counterparts; employment and incomes have increased and there is some evidence of movement into more skilled occupations. In contrast, males have faced reduced employment and incomes and there is less evidence of a shift toward more skilled employment. It is therefore important when addressing the issue of indigenous economic status, that sex differences are recognised.

This study has illustrated the use of census data in discussing the labour market position of indigenous Australians. While the census is limited in its range of information, for example by its focus on one time period and its household-basis, it provides a wealth of data on a range of issues. It has the additional advantage of enabling comparisons with other Australians. An additional source of more detailed information on the indigenous population will come from the results of the 1994 survey of indigenous Australians, the National Aboriginal and Torres Strait Islander Survey (NATSIS) conducted by the ABS. Census and survey data have much to offer to researchers in this area although it is important to remember that it is only one source of information on Australia's indigenous population.

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